Drug Markets

January 1931

The Magazine of the Manufacturing Drug Trade

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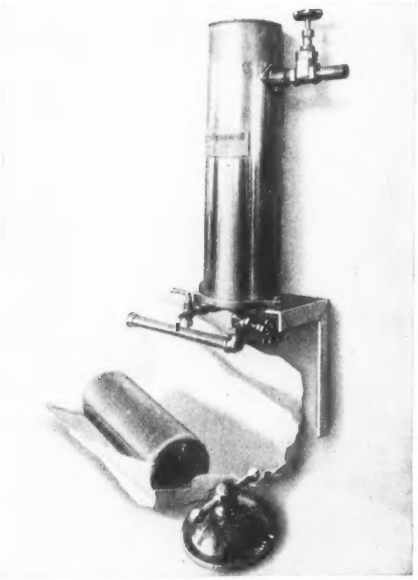
Frank J. Lynch
Pres.

P. S. , . . . Sun packed products sell.

FOR MODERN LIQUID PROCESSING

Hy-Speed WATER FILTER

***FEATURES** Delivers large quantities of crystal clear water . . . Easily and quickly cleaned . . . Low in price.*



"Hy-Speed" simplicity makes cleaning easy

It is just as important to use filtered water for washing or rinsing bottles and equipment as it is to use it in any liquid process that requires dirt-free water. The amount of contaminating dirt and rust that this filter will remove, even from the best city water, is astounding.

We will be pleased to send you one for test and trial in your own plant without obligation, so that you can see exactly how much foreign matter it removes from your water in a comparatively short time.

EASILY CLEANED

The lid can be removed for inspection and if the filter medium is found to be very dirty, but two minutes are required to remove the screen and rewrap with clean French Filter Paper, making the filter as good as

As it is a difficult, dirty and cumbersome job to scrape old-fashioned filter stones or to renew batches of sand commonly used, ordinary filters are seldom reconditioned as often as necessary. For this reason, the new "Hy-Speed" Filter, in which it is so easy to change the filter medium, insures a pure water supply at all times.

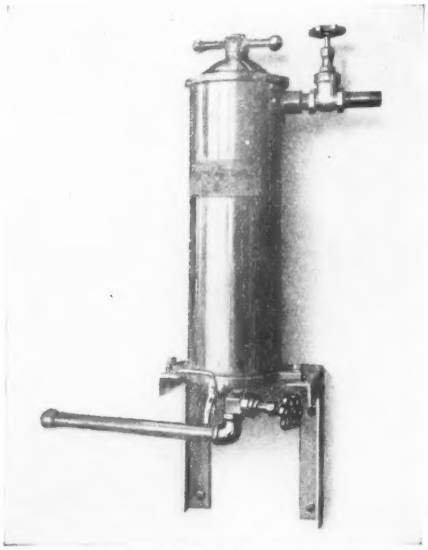
These filters are used singly or in parallel, depending on the capacity required. They connect to any pipe line and the water passes through with very little drop in pressure.

Where two or more filters are used in parallel for greater capacity, one filter may be cleaned while the other is in operation. "Hy-Speed" Filters can be connected to a supply line at very little cost.

SPECIFICATIONS

All parts are of brass or bronze finished in highly polished nickel. Chromium plated at an extra charge.

Type 1 has 400 sq. in. filtering area. Pipe connections are ¾". Capacity 15 gal. per minute at 25 lbs. pressure. Constructed to stand 100 lbs. pressure per sq. in.



Type 1 "Hy-Speed" Water Filter

ALSOP ENGINEERING CO.

This is a page reprinted from the new, profusely illustrated ALSOP manual of liquid processing methods.

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July 1931

Drug Markets

Established 1914

The Magazine of the Manufacturing Drug Trade

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U. S. P.

While compilation of U. S. P. XI is the most important thing now before the drug manufacturing industry, we appreciate there are many not interested in this work to the exclusion of other more pressing matters. However, the large number of events bearing on this one subject during the past month have forced us to give the subject major attention. Doubtless the work will soon be settled regarding the main points, and at that time less space will suffice for adequate coverage of the subject.

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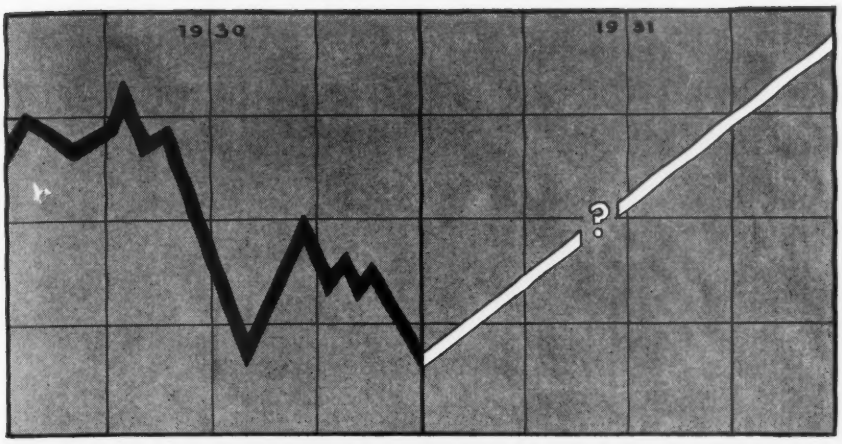
THOMAS R. FARRELL

Business Manager
FRAZER V. SINCLAIR

PUBLISHED MONTHLY AT PITTSFIELD, MASS., SUBSCRIPTION PRICE, TWO DOLLARS A YEAR, IN ADVANCE, POSTAGE PAID TO ALL COUNTRIES, THREE WEEKS' NOTICE IS REQUIRED TO CHANGE SUBSCRIBER'S ADDRESSES, AND WHEN NOTIFYING KINDLY GIVE BOTH OLD AND NEW ADDRESSES; PRINTED BY THE SUN PRINTING COMPANY, PITTSFIELD, MASS. ENTERED AS SECOND CLASS MATTER, JANUARY 1, 1928 AT THE POST OFFICE AT PITTSFIELD, MASS., UNDER THE ACT OF MARCH 3, 1879.



As you will doubtless suspect long before you reach the end of this article, I am not a Roger Babson, a crystal-gazer . . . nor do I believe everything that I read in the newspapers.

But if we must speak of depressions . . . and that's what I'm going to do . . . there is one thing which we should all remember about other minor, major or mental panics which we have come through. And that's it: *We have come through them.*

Without excessive strain upon our thinking equipment it is safe to say that history is just about due to repeat itself. This country is altogether too large, its industries too varied, its wants too many, and its business men too capable, to allow a depression to stick around for long.

One conjurer of business charts who looks a little farther ahead and speaks a trifle more frankly than the rest of his kind, recently said, "Depressions are good for the country. They weed out the weaklings, the careless and the inefficient. Only the organizations which conduct their business as it should be conducted, deserve to survive."

There is an element of truth in that statement. Be that as it may, most of us can recall the names of certain men who built the foundation of their fortunes when times were supposed to be bad. It can, and it will, be done again.

Fat years make all of us lazy and content. Lean years, or even the prospect of lean years, awake latent energy and ability. The manufacturer or merchandiser who looks to the quality of his product, the appearance of his package, and is not afraid to invest a few dollars in advertising, will come through the present business depression stronger and better than before. It will be history repeating itself.

All of which isn't telling you anything that you haven't heard, read or thought out for yourself many times over. But saying it again may serve to crystallize everything.

Dart Smith

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Heeding our oft-repeated request, Mr. Smith has finally agreed to contribute a regular page each month during 1931. We believe you will find it to contain many interesting and useful ideas . . . ideas which may be profitably used or reprinted in your own house magazine or sales bulletins.

If you are not a regular reader of *The* PHOENIX FLAME we suggest that you send in your name and address at once so that you will not miss a single issue. This one feature should more than repay you for the time required to read each issue from cover to cover.

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Drug Markets

January 1931

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Shifting the Shoe—Courage or Wisdom—Changing Laxatives—Protection for the Independent—Increased Vigilance—The Smallness of Orders—Descriptive Names Taboo.

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Keep Growing

As is true in any depression there are growing companies that do not show a loss of business and actually show a gain. There are also growing industries that experience the same result. It is for those at the heads of various companies and industries to seek the ways of expanding their business volumes, not necessarily at the expense of others. We believe that the drug industry as a whole is an industry still showing healthy growth, and, therefore, there is no reason for the industry or for individual companies seriously to fear the present period.

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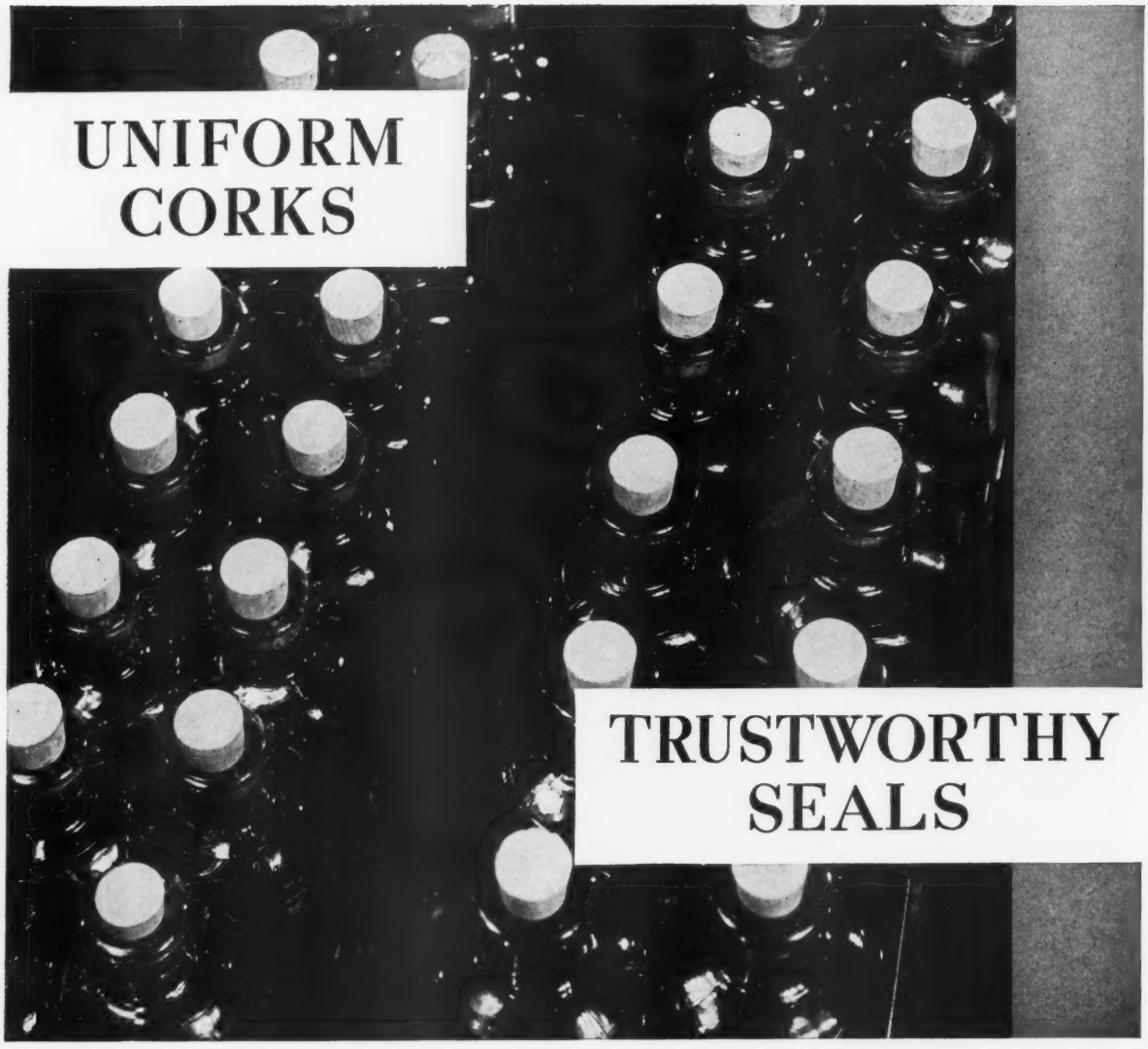

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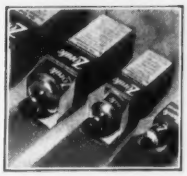

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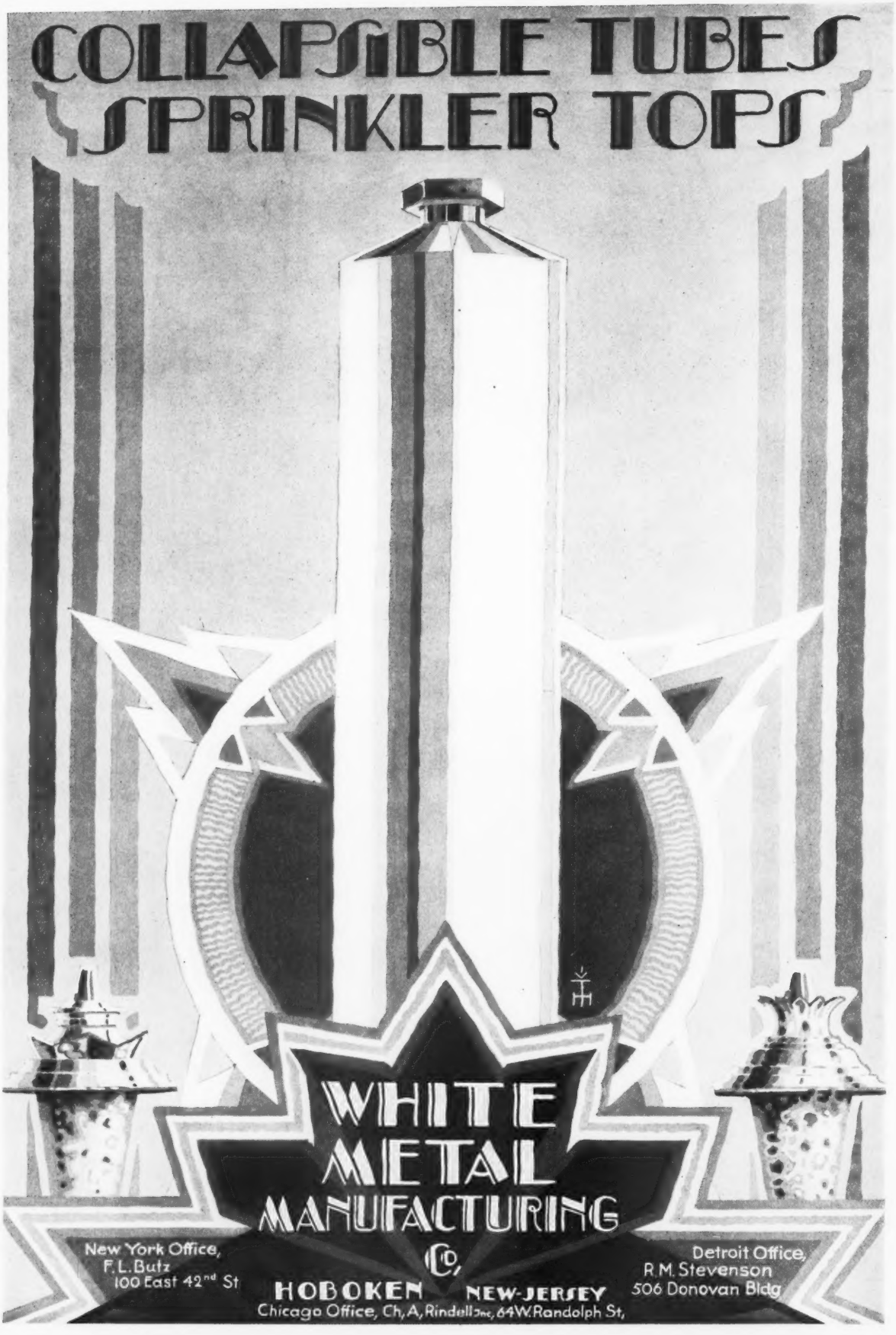
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Nov. 1930

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Prompt shipments can be made from any one of our branches,

St. Louis New York Philadelphia Montreal

Address the nearest office giving your requirements.

Very truly yours,

MALLINCKRODT CHEMICAL WORKS.

Drug Markets

Vol. XXVIII JANUARY 1931 No. 1

Shifting the Shoe

UNLESS the Food and Drug Administration expects to receive spirited opposition in the court room from almost every manufacturer upon whom it attempts to thrust its exaggerated idea of protection of the public, it had best modify its rulings under which the drug trade has chafed during the last three years. For within the past two months two manufacturers have gone into the court room and have come out not only with clean bills of health but also with rebukes to the Administration because of its narrow and wholly unreasonable interpretation of the Food and Drug Act.

FOOLISHLY enough, manufacturers with reputations that they value highly, have long refused to enter the court room to fight the Food and Drug Administration. Rather than obtaining publicity indicating a fight against attempts of the Government to protect the public from fraudulent drugs, these manufacturers have bowed gracefully before the enforcing authorities and accepted most any restrictions that the Administration would place around them.

BUT now things have changed. Two manufacturers—both of excellent reputation for their products,—but both sufficiently dependent upon the products involved so as practically to be forced to fight against unreasonableness that would cost them large amounts of business, have fought the Administration with the result that at least two of the Administration's dearest contentions have been shattered. True it is that these decisions have been rendered by judges of district courts and that confirmation by the Supreme Court is necessary to force the Administration openly to change its activities, but the first step has been won by the drug trade and the responsibility for an aggressive fight is now being shifted from the trade to the Administration.

THE course to be followed by manufacturers in the drug trade is simple: every manufacturer must fight every case in which these two points, or other points equally unreasonable, are involved. A series of victories in the court room by manufacturers of highly prized reputations will quickly lead to a new public opinion regarding the work of Drug Control. Rather will the trend of the Administration to check self-medication obtain full publicity, rather than the idea that anyone who fights the Administration is trying to get by with fraud.

Courage or Wisdom

Manufacturers distributing to the drug trade have much the same set of conditions to meet this year as they had last year. Pessimism continues to influence the actions of too many people throughout the country, and attempts to stimulate business must fail to bring the same response which they brought prior to the deflation. Many manufacturers meet this condition with a cessation of their activities, while others go ahead with just as much force and vigor as ever.

Several very prominent manufacturers have definitely announced that they will spend just as much or more this year in advertising their products as they spent last year, and in most cases large firms did not materially curtail their expenditures during 1930 in the belief that the recovery would arrive more quickly. But since it did not arrive, the wise manufacturers are not going to have it arrive in 1931 without their being prepared to share in it. Also they appreciate highly the fact that we are one year nearer the recovery.

If all manufacturers will take the viewpoint of the large ones who are following this wise policy, the recovery will certainly arrive more rapidly. Activity in stimulating business is sure to produce results no matter how much our present purchasing power is discounted. And the one fact that plays into the hands of those who have courage to go ahead is that everyone does not follow them. If they did, advertising in poor times might rather prove to be a defensive measure with no one gaining much but all protecting themselves for the future.

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Changing Laxatives

Fads and fancies play a surprising part in the sale of medicines, and perhaps the group of products most attractive to those continually trying new types, is that of laxatives. Constipation of one form or another strikes so large a part of our population at one time or another that the search for an ideal laxative is never ending.

"Vegetable" and "mechanical" are two words that have a direct appeal to the public mind when applied to laxatives, and while the non-vegetable and non-mechanical laxatives are not generally described by their proper terms of "chemical" and "coal-tar," they are, nevertheless, not comparable in unstimulated public acceptance with the former kinds.

Mineral oil is a mechanical laxative, and while not strictly a vegetable product, it is at least a natural one. Agar agar and bran are both mechanical and vegetable laxatives. These products were each received with enthusiasm when first offered, and are still enjoying real popularity, but the newest one of this type—psyllium seed—is making a strong bid for the top of this market.

Some are of the opinion that psyllium seed is seeing its best days while others believe that only a small percentage of the constipated public are really acquainted with it. It does seem that generally the product has a long way to go before it is used or before it fails to have a new group of people take up its use just as another group is giving it up.

Perhaps the greatest stimulus to public acceptance of this type of product lies in the ease with which they are produced or marketed. Any or all of the vegetable mechanical laxatives can be bought in bulk in exactly the condition that they are to be sold to the public. All that is necessary for the producer is a retail container in which to pack them.

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Protection for the Independent

Existing and probable methods of obtaining distribution of necessities from the manufacturer to the consumer is quite interestingly discussed in the decision handed down January 5 by the Supreme Court of the District of Columbia on the request of Armour & Company and Swift & Company to have their consent decrees of 1920 modified. The court modified these decrees to the extent of allowing wholesaling, but not retailing of foods, and not in allowing the companies to own stock in stockyards, terminal railroads or market journals.

Interesting to manufacturers in which the retail trade is divided among independents and chains is the court's refusal to allow the packers to enter the retail business. The court decided that the packers had failed to show where the chains had caused any great loss in profits of manufacturers, and would not permit the packers to enter the retail business because it might mean the annihilation of the independent grocer.

But despite this refusal to allow the packers to enter the retail business, the court could form no opinion as to whether or not the independent was still an advantage:

> "Whether such complete integration in merchandising from the producer to the consumer would produce better conditions as a whole is an economic question which is not for the court to decide."

Thus did the court decide on status quo, in the belief that some other agency of the government should take the responsibility for such a step. All of which is full of meaning for manufacturers of the drug trade.

Increased Vigilance Compounding drugs is an art that calls for every bit of care and precision that can be obtained by any means. The serious results that may follow the improper compounding of medicines is only too well known to people who are acquainted with any phase of the drug trade. Yet there is human element that enters into the production of practically all drug products which causes many to shudder when they think of what might happen if this element happened to go wrong.

But a slip of the human element in drug manufacturing is not so apt to occur as the human element in prescription work in the retail drug store. For in the manufacture laboratory there is necessarily a system of check and recheck that makes necessary the many failures, all at one time, of several people and possibly machines before the error occurs. In the retail drug store there is often only one person who attempts to check himself.

The fact that when the manufacturer slips, the error enters a large number of packages that reach many people is quite completely overcome by the lot number system in use in practically all of the leading houses to-day. Thus as soon as one report is received that a lot is not up to standard, the entire lot of material is recalled or destroyed.

Eternal vigilance is the price necessary for avoidance of errors in this industry where errors are oftimes fatal to both buyer and seller. That manufacturers are steadily improving methods to entirely eliminate the human element is evidenced by the steadily increasing number of labels that now bear lot numbers.

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The Smallness of Orders Markets for raw materials consumed by the drug manufacturing industry continue in the doldrums with both sellers and buyers marking time. Buyers are taking on smaller amounts than ever, and express shipments are becoming exceedingly common. It is to be expected that manufacturers, in a time like this, would not take on more than enough for their immediate requirements, since they are anxious to keep their stocks at a low point, and at the same time there is real reason to anticipate a decline in price of any material.

The present condition simply means that the hand-to-mouth policy of buying has been extended further. Since the industrial crash of 1920 when overstocks were the primary cause, buyers have adopted this policy much to the general disgust of sellers. However, as confidence was gained in economic conditions, the size of the orders increased although they were still far below the average order of times prior to 1920. Now there is likely to be a general resumption of hand-to-mouth buying and the policy will probably be adopted in a more thorough-going fashion than ever before.

If this condition is to exist, sellers must meet it by adjusting there working conditions. There will be no use attempting to convince the buyers that they are wrong—sell them as they want to buy but charge them sufficient to pay for the increased cost of doing business their way.

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Descriptive Names Taboo That it is rather difficult to select trade-mark names is indicated by a study of the various restrictions under which the manufacturer of trade-marked merchandise must work. It is natural that any manufacturer should seek to have his name mean to the buyer something that will indicate the use to which the product is to be put.

The descriptive restrictions of both the Patent Office and the Food & Drug Administration have forced the manufacturers to select fanciful names, but a recent court decision states that the requirement of the Administration in this regard has no standing in law. But the Patent Office indicates that it will not stand for descriptive names and accordingly it refuses to register the name "No-Nox" for an anti-knock gasoline.

Ten Years Ago

From our pages January, 1921

Important information for manufacturers of pharmaceutical specialties is contained in a news letter from Havana. A decree issued recently by President Menocal regulating the importation of medicinal products subjects American manufacturers to heavy losses by confiscation unless the regulations are complied with.

Colgate & Co. have obtained a judgment for $142.16 against Brugdorf & Lynch, Inc.

Merck & Co. have sent a memorandum calendar to the trade. It provides space for notes under each day of the week, and announces holidays.

The F. J. Stokes Machine Co., Phila., Pa., manufacturers of chemical and drug machinery, will build a one-story addition to its plant 91 x 140 ft. to be located at Tabor & Ferry Sts.

Chas. N. Turner has been elected president and treasurer of the Newport Chemical Works, Passaic, N. J.

McLoughlin, Gormley, King & Co., drug millers, Minn., are now operating a mill at Rockaway, N. J.

Ewing Galloway

Native witch doctor of South Africa treating a Zulu patient by blowing into his ear with a cow horn.

Strange Cures Abroad

Ah Choo!

Ewing Galloway

For Coughs and Colds

Drug Control gives us as clear a conception as possible of its requirements on labeling this important group of remedies.

COLD and cough remedies, real or alleged, are being dealt with by the Food and Drug Administration chiefly as individual cases that come to the attention of the authorities in connection with some of the established projects or campaigns being carried on. Medicines for treatment of coughs and/or colds are not being handled as a class. Nor has the Administration established any policy for handling preparations of this class, except the general policy of enforcing the law against adulteration and misbranding.

It has been reported from time to time, in drug trade circles, that the Department was about to start a campaign to regulate cold and cough remedies, a campaign of the type that has involved such classes of products as antiseptics, influenza, lagrippe and pneumonia preparations, and malaria remedies. However, such has not yet developed and the Department is not prepared to announce its plans. It is thought, however, in some quarters, that the increased force authorized for the Food and Drug Administration and increases proposed in the Agricultural Department

appropriation bill for the fiscal year beginning July 1, 1931, may enable the Department to undertake a campaign against alleged cold and cough remedies.

Meanwhile, when a preparation claimed to be good for treatment of colds comes to its attention, the Administration contents itself with making a statement substantially as follows:

"While preparations of the type under consideration do not constitute a treatment for the pathology of colds, the Administration at the present time is not taking regulatory action against this class of products on the sole ground that they bear representations concerning colds. The responsibility for any recommendation of this kind rests clearly upon the manufacturer. Such representatives can not be sanctioned by the Administration."

In other words, the Department practically puts its ban on all preparations claimed to be good for treatment of colds. In fact Dr. J. J. Durrett, Chief of Drug Control, so states to Drug Markets, in plain language.

No Cold Cures?

"I don't know of any preparation good for the cure of colds," said he.

"However," he added, "we here don't know everything that has been done on this subject. We have not studied the matter. We may do so later. When we do take up this subject we will tell the manufacturers of preparations claimed to be good for treatment or cure of colds that they have had their opportunity and that they ought to be ready to prove that they are right. If they can not do that we will proceed against them and seize their products.

"We have been excluded from taking up as a class, preparations for which 'cold' claims are made because we have not been able, with our force and the present status of the cold question, to work out a system for dealing with the matter as a whole or as a class."

In this connection it is understood that the Department of Agriculture has been much interested in research work that has been going on for some time at Johns Hopkins University, Baltimore, into the pathology of colds and the question of the treatment and cure of this ailment. While it can not be stated authoritatively that the Department is awaiting the conclusion of this research work before it undertakes a campaign against alleged cold remedies, there is an impression existing that such may be the fact.

Results obtained in the Johns Hopkins research work have not been published because the work is not completed, but partial reports are understood to indicate that that work tends to back up the Department's statement that there are very few things, if any, that can be regarded as a competent medical treatment for colds.

Speaking with a group of manufacturers of medicinal preparations not very long ago, Dr. Durrett was quoted as saying that the Johns Hopkins work on colds would probably go on for quite a considerable period of time. "I don't believe," continued Dr. Durrett, "that they are immediately going to find a competent cure for colds. For that reason they probably have a long and large task before them."

There has been an impression in drug trade circles that the Food and Drug Administration prefers the term "commercial" to be used in a labeled claim on a preparation for treatment of cold, to the single word "cold."

"Common Cold" Incorrect

Dr. Durrett tells Drug Markets that this is an erroneous impression. "What is meant by a 'common cold' ?" he asks. "That term depends upon the status and occupation of the sufferer from a cold. It may also depend upon a variety of other circumstances and conditions. For example, if a man is working in an industry where dust prevails largely, such as a cotton mill, a grain elevator, a sawmill, perhaps, he may have a cold due to inhaling dust. In that case, what I may call a 'mechanical cold' would be a common cold. Coal miners may have a chronic irritation resulting from inhaling coal dust. That would be a common cold for them.

"On the other hand, if one is associated with large groups of people, not in a dusty atmosphere, and contracts a cold, it would probably be classed as an infectious cold. That would be another type of 'common cold.'"

"Again, there is a class of colds the result of plant pollen. This is called variously 'rose fever,' 'rose colds,' 'hay fever,' etc. Depending upon time, place, occupation and other circumstances, one of these may be the 'common cold.' So I may say that the term 'common cold' is not unobjectionable.'"

"Coryza," in the opinion of Department medical men, is a term similar in meaning to "cold." In any event coryza usually marks a cold. The use of the word "coryza" on a label is not viewed with much, if any, more favor than the use of the word "cold."

"Coryza," says Dr. Durrett, "is a medical term that relates to an inflammatory condition of the nose and it involves elements other than running of the nose. The condition of coryza takes in all the elements of inflammation, redness, swelling and discomfort, and leaking of the glands. Some drugs tend to constrict the smaller vessels of the lining of the nose and through a decrease in the volume of blood present, decrease the swelling and congestion."

However, government doctors do not admit that this result means a cure of the cold, although it is a treatment of a symptom of cold.

Coryza sometimes accompanies lagrippe or influenza. In fact, colds are frequently hooked up with grip or flu. Commenting upon the difference, or likeness, of these diseases, Dr. Durrett said:

"There is no person who can always diagnose between a cold, grippe, or influenza. You can have

influenza and the grippe that you can't distinguish from a cold. In 1918 we saw a good many cases of flu that you could not distinguish from ordinary coryza. Influenza may manifest itself with the symptoms of a cold that are not distinguishable from what you would ordinarily term a cold."

Dr. Durrett gives a reason for the Department not considering cold remedies as a class, as follows:

"We have not considered colds and alleged preparations for their treatment, for the simple reason that we knew that if we should enter the regulatory field for colds at this time, we would never get through with the grippe, pneumonia and influenza fight that we have been through in the past two years. We are still dealing with the claims of those latter diseases and no special consideration has been given to colds."

Nevertheless and notwithstanding, Dr. Durrett did indicate clearly that the labeling of a laxative preparation as being for the treatment of colds is not deemed to be in order, by the Administration.

Asked, if it should be found that no product is entitled to be offered to the public as a mitigant for colds, what would be alloted by the Department, with reference to colds, on a label of a product having laxative properties, or analgesic properties, Dr. Durrett replied:

Specific Action Necessary

"Any drug that is offered for the treatment of cold or for any other condition, ought to have specific action in that condition. If you are selling an anti-pyretic, an analgesic, a laxative preparation, that preparation is anti-pyretic, it is analgesic, it is laxative, in whatever condition of health or disease that you give it. We think that when you have established these properties on a label that you have stated the truth, and you have stated the whole truth. A manufacturer can say that his product relieves or cures a disease if it does in fact produce that result."

Discussing the policy of the Administration as regards the labelling of cold and cough remedies, or other medicinal preparations, Dr. Durrett said:

"The Department can go no further in passing approval upon a label than to say that, 'we have no further objection to offer at this time.' We can't approve a label on an empty bottle. We may have to study the contents of the bottle. We manifestly can not comment on labelling unless we know what it covers in that particular package.

"The manufacturer is not required to give to us his formula or his product unless he wishes. He can not speculate, in his labeling. He labels a preparation for colds at his own risk. The concensus of medical opinion is necessarily the Department's conclusion.

"The Department studies court decisions and medical books, it consults physicians and other sources of information. We will furnish the present-day concensus of medical opinion upon any specific product for which it is requested. We can not tell about a given product until we have it before us. We do the best we can in trying to exercise some degree of judgment as to what products merit seizure, what ones merit notice, and what ones merely call for correctional correspondence. The Department doesn't feel itself called upon to seize every product that in minor respects fails to comply with the law.

"In considering labeled claims with relation to the concensus of medicinal opinion, we must consider the average reaction of the average dose on the average person, not individual reactions in special instances.

"The concensus of medical opinion may be homeopathic, eclectic, or what may be called regular. If a homeopathic or eclectic preparation is involved, the Department consults authorities in those schools of medicine. Manufacturers are advised to label their products to indicate whether the preparations are in comformity with each school, so that there is no deception to the individual taking a remedy. Most persons regard medicines as allopathic. A patient might possibly not know what eclectic meant, but that word on a label might nevertheless be a truthful statement."

Many Varieties of Cures

The variety of preparations that have been offered for treatment or cure of colds is very great. They range through tablets, pills and capsules; oils, drops, sprays and antiseptic preparations, inhalants, ointments and greases, jellies, pastes, liquids and powders, laxatives, liver medicines, analgesics, diarrhetics, anodynes, antipyretics, rubs, and what not.

The list of forms of cold, or symptoms of cold, or accompanists or accompaniments of cold, or relations or results of cold, or causes or effects of alleged cold, for which preparations in the above classes have been offered, run the gamut of tuberculosis, pneumonia, lagrippe, influenza, bronchitis, laryngitis, catarrh, sore throat, tonsilitis, quinsy, sinus trouble, chills, fever, asthma, hay fever, pains and aches, soreness, stiffness, and many other ailments to which human flesh is heir.

One of the latest rulings of the Administration is reported to be that preparations in the class of inhalents may not make labeled claims referring to sinus conditions or troubles.

There have been no prosecutions and no seizures based upon use of the word "cold" alone on a label, in enforcement of the food and drugs law, according to trade representatives. Department officials likewise fail to recall any case involving seizures of a preparation because of labelled claims with reference to cold alone.

However, there have been a great many preparations seized in the flu campaign, on account of claims with reference to flu, grippe, or pneumonia, and which also bore clains as to colds. The record of notices of judgment under the food and drugs act contains many instances of so-called "cold tablets" and "cold cap-

sules," and preparations in various other classes listed above that have been seized and condemned for alleged misbranding. The condemnation of many such preparations on account of cold claims is specifically set forth in the notices of judgment, along with the grounds for condemnation on account of grippe, flu, or pneumonia claims.

In these notices of judgment the analyses of the various preparations are given, on the basis of which the products were declared misbranded. Ingredients shown in some of these analyses include drugs such as quinine, acetanilid and other coal tar products, camphor, aloin and other laxative drugs, podophyllum, capsicum, acetyls alicylic acid, caffeine, aconite, sugar, talcum, alcohol, glycyrrhiza, belladonna, gelsemium, ipecac, resins, petrolatum, phenol, methyl salicylate, vegetable drugs, sodium and potassium compounds, bromides, sulphates, iron compounds, menthol, essential oils, chloroform and various other drugs.

Facts Helpful in Labeling

The claims made for, taken in connection with the ingredient in condemned preparations appear to indicate that either the cold claims were too broad, or were unwarranted, or that the ingredients claimed to be useful (if any) in treatment of colds that were contained in such preparations were worthless or were not present in sufficient quantities, in the opinion of the courts rendering judgment. Or two or more of these conditions, may have existed.

These facts should be helpful, in the opinion of Department officials, in guiding manufacturers as to what they can claim, how they should label and should not label, what they should put into preparations which they believed to be useful for treatment or cure of colds. But the Department's view at present is that there is no medical cure for colds, although it is not pressing that view at this time.

Some help may also be obtained, it is believed at the Department, by manufacturers of preparations for coughs, if they will study notices of judgment issued against preparations for which cough cure claims were made. A number of such claims were made for preparations that have been seized and condemned in connection with the flu remedy campaign. A large variety of coughs or cough claims were involved in such cases. Some related to coughs allied to grippe, pneumonia, and even tuberculosis. Others concerned bronchial coughs, bronchitis, and other forms of coughs.

The Food and Drug Administration has quite definite ideas about claims for alleged cough remedies or cough cures, although the Administration has undertaken no organized campaign against alleged cough cures. Dr. Durrett expounded the Department views for Drug Markets as follows:

"It is permissible to label a preparation as a 'cough syrup' provided it possesses the quality of such a syrup. It is pretty generally understood what a cough syrup is. It is a very sweet, syrupy preparation that may benefit some kinds of coughs. If it possesses these qualifications a preparation may be labeled as a cough syrup.

"Many preparations for which cough cure claims are made are nothing but mild expectorants. They may be labeled as expectorants, if they possess the quality of such.

"Some are perhaps soothing preparations. If so they may be labeled as having a soothing effect, or as 'soothing medicines,' or something of that kind.

"It may be proper to say that a preparation is good for 'coughs following colds,' provided it does in fact have that quality.

"But it is not proper to say that a preparation is good for coughs in general or for all kinds of coughs, unless it is in fact so. And I do not know of any one medicinal cure for all kinds of coughs.

"There are coughs connected with pneumonia, influenza, tuberculosis, heart disease and other conditions. There are deep-seated, persistent, very irritating coughs.

"When a manufacturer claims that his product will cure such coughs he is simply talking about something that does not exist.

"When such claims are made the products concerned pass out of the class of cough syrups or simple cough remedies. They go over into other classes of preparations on which the Department has taken a definite stand.

"These classes include preparations claimed for treatment of influenza, lagrippe and pneumonia. They also include preparations claimed to cure tuberculosis. The Department holds, on the basis of best medical advice, that there are no medicinal cures for these diseases.

"It is not permissible for cough remedies, so-called, to have claims made for them, on labels, that connect them, directly or indirectly, by implication or by inference, with coughs or other symptoms or conditions that mark lagrippe, influenza, pneumonia, or tuberculosis, or other very persistent or incurable conditions.

"While the Department has not adopted a project for dealing with cough preparations as a class, it is believed that any such claims with reference to coughs as those above outlined constitute a violation of the law sufficiently serious to warrant including such cases within the classes upon which it has heretofore announced we are taking action.

"Such labelled expressions as 'cough from influenza,' 'pneumonia cough,' and the like are definitely banned, and any label of this type, or bearing any such implication or suggestion, will subject the product to seizure and render the manufacturer liable to court procedure.

It is understood that the Department holds further that whooping cough is not curable by medicinal means. A number of seized preparations have borne

(Continued on page 69)

Profit Management

By Lee H. Bristol*

Mr. Bristol, a leader in thought on the conduct of business for manufacturers' trade-marked products, tells of the various elements that must be properly coordinated for maxium profits.

IN MANY ways, men and capital are very much alike. Both idle and underpaid men, and idle or underpaid capital are always looking for full time lucrative jobs. The banking houses of Wall Street and La Salle Street are employment agencies for capital. They hire it out to those who can offer it work. Every year, billions of dollars that are seeking good wages, pass through the banking houses.

Now, of course, you know that this is not as simple as it sounds. Almost every one of us would be glad to hire as much capital as wanted a job. The trick is that capital demands employment insurance which very, very few of us can underwrite. It wants to work, not for gamblers, but for men of proven competency in business management.

Why has there been a distressing lack of such men in the past ? For one thing we have paid too much attention to details. We have become so intent on continuing our subordinate duties of being good copywriters or advertising managers or space buyers or account executives or salesman or editors that we have overlooked our real purpose in business-profit management. We have failed to take advantage of our own opportunities and at the same time have blocked the advancement of other individuals into our detail jobs.

I may sound pessimistic but I am, nevertheless, in a very hopeful frame of mind for it seems to me that we are more and more setting our eyes on the final goal—particularly, those of us who spend our time in the field of distribution. We are, I believe coming nearer and nearer to a coordination of our distribution processes. That of course is an initial step—a step that must be taken before we can fuse the distribution function into its proper places in the business of profit management.

Not many years ago the word distribution had no definite meaning for us. The term distribution was still to be coined. Not that there were no advertising managers and sales managers and sales promotion managers and all of the rest. I suspect that there were too many of them—each hammering away at this own little peg and having little or no idea what the other fellow was doing. They knew quite definitely that they were all there to make profits for their companies but they had no organized plan or system of attack.

To-day there are a great many indications that that situation is being changed. We are beginning to look at the whole picture instead of our own little snapshots.

Every day we hear more and more frequently the titles of distribution director or editorial director or the sales and advertising director. Those titles are indicative of a trend. They mean that the ramifications of our distribution functions are becoming so extensive that they must be co-ordinated if we are to succeed in profit management.

Successful distribution has outgrown the swaddling clothes which it wore in the early part of the century. Then a million dollar advertising campaign was unheard of and a much smaller sum than that, properly spent, could put a manufacturer far ahead of his competitors. The first million dollar appropriation was created less than twenty years ago. Last year there were fifty such appropriations.

*Vice-president, Bristol-Myers Company, President, Association of National Advertisers.

When every one began to advertise it gradually developed that the manufacturer who captured the most business was the one who made his product more readily available or who saw that his product gave more and more satisfaction to the buyer. In either case this meant service. To-day almost all of us are selling service in addition to products. That, of course, has made the distribution function much more complicated. It also tended to disorganize it. New selling plans and schemes entered to complicate the picture. The chain store was created from one such idea.

In short, distribution has become so interlocked, so entwined and so tangled about itself that it is small wonder that we so easily lose sight of the larger job of profit management.

It has come time to put our house in order, and one thing for which we should be duly thankful is that we know it. The first step in solving any problem is to recognize it. I think we have done that. We have gone even farther. We have made a bold start to clear it up.

In making that start we have made another discovery and that is that we cannot co-ordinate distribution within itself. Just as the elements that make up distribution are completely interlocked, so distribution is completely a part of the business of profit management.

We have come to realize that sales and advertising efforts are so very much alike that they must be approached as a unit. We have discovered the importance of assuming a compact control over these functions. We have developed the idea of market research and as well as we can we are tying it in with sales and advertising. We know that credit comes within the fold of distribution. The distribution executive who does not keep a watchful eye on his credit department, will soon rue his oversight. We find that the production department is very much a part of our distribution concept. I suspect that the absence of profits during the past year was due in some measure to a lack of co-ordination between individual production and distribution departments.

J. P. Jordan, speaking before the Association of National Advertisers a year ago, summed up this connection. He said, "the distribution function is not a job of putting up copy. It is not a job of designing the most beautiful ads, or of arranging the most lovely programs to go out over the air. No, it goes way beyond that. It goes into the realm of executive thought. It goes into the realm of thinking out every move, not only of the distribution department but of all other departments."

Not many years ago one of the great steel mills found that its shops were inefficient. They were not well co-ordinated. The executive of the company called in an industrial engineer of some note and put him to work on the problem. The engineer did a great deal to improve the company's output. He reorganized the personnel and rearranged men and machines. In fact he put the shops in first class running order.

The executives were pleased but the engineer himself was not. Having an eye to profit management he had seen the real flaw in the company's business. It was this. A greater part of its men were engaged in cutting steel blocks with steel tools. The steel tools were so made that they became greatly overheated and lost their temper. To avoid even more lost time all the workmen in the shop were forced to stop every few minutes and let their tools cool.

The engineer demanded that they be given harder tools. He was told that none existed and that the tools in use were the best that could be made.

And so after he had straightened out the shops as best he could he shut himself up in a laboratory with a metallurgist. When the two emerged they had invented a steel alloy so hard that it could be used almost indefinitely without overheating. The invention revolutionized the industry.

There was a man who realized that profit management was the real aim of business and that manufacture, invention and discovery were merely means to be used to an end.

Those of us, engaged in distribution, are assuming this same state of mind. We are coordinating our jobs from the ground up. In addition we are going into other fields, if necessary, to find solutions to our problems. First, we are coordinating what we may call pure distribution. Then, we are seeking a perfect balance between the several elements that make up a business enterprise. If we can succeed in doing that, we will, I am sure, open up wider opportunities for ourselves. We will discover that we do not have to accumulate capital in order to have it.

In viewing business as a whole and dealing only with the broader concepts, there is one factor which is a vital key to an adequate understanding of every recurring or new situation that arises. I refer to trend, which is that simple expression for indicating the relationship of the problem as a part of the whole. We should not be afraid to conjure with such a fundamental element as secular trend. It is only with the knowledge of that important relationship in mind that clarity, force and direction can be given to management operations. That is the micrometer by which we can calibrate each problem and each situation that arises, for surely all such elements are new each time they occur and the contributing circumstances are always different.

I have turned to metalurgy for one illustration. Perhaps it can give us another. All of you are familiar with the sprinkler systems that protect our buildings from fire. You will remember that they are made up of a string of overhead pipes. At regular intervals little nozzles are screwed into the pipes, and each nozzle is plugged with a small piece of easily fused metal. When a fire comes it melts the little plugs and releases the water in the pipes.

(Continued on page 47)

Misconceptions of Antiseptics

By H. Wales

Drug Control, Food and Drug Administration

After stating conditions which tend to prove the great difficulty of obtaining sterile conditions. Mr. Wales draws some rather inferential conclusions regarding oral antiseptics.

PROBABLY no term has been more misused than the word "antiseptic." It has been applied to products which destroy bacteria in a brief time, to those which inhibit the growth of bacteria without killing them, and to food preservatives. Although there has been some effort among bacteriologists to restrict the use of the term antiseptic to inhibitory products and to substitute that of germicide for killing agents, a survey of the literature from the time of Pasteur to the present day shows that no such restricted use has been adopted. In fact, current dictionaries give both definitions for the word. To discourage this practice it has been proposed (1) that antiseptics be defined as "substances which when applied to microorganisms will render them innocuous, either by actually killing them or by preventing their growth, according to the character of the preparation or the method of application."

Probably the most widespread misconception is that in regard to possible dilutions of antiseptics. It seems to be the general opinion that antiseptic action is an inherent property of some products which cannot be destroyed. A familiar statement appearing on the labels of certain drugs is "contains antiseptic oils." A striking example of the dilution fallacy is the National Formulary Antiseptic Powder. This product, used as a dusting powder, will inhibit the growth of the more common pathogenic microorganisms found on the skin. However, the powder is used chiefly for making solutions for douches, one teaspoonful being dissolved in about a quart of water. In this dilution the product has about as much effect on bacteria as an equal volume of water would have.

There is another class of products known as internal or intestinal antiseptics. Disregarding any data obtained from test tube experiments, let us consider the facts. A small pill or a few drops of liquid are taken into the stomach, usually swallowed with water. Further dilution takes place when the preparation comes in contact with the contents of the stomach. Then the "antiseptic" passes through many feet of intestines, more or less filled with the food in various stages of digestion, and then, after this enormous dilution, the minute amount of "antiseptic" is expected in some way to exert a killing or inhibiting influence on the bacteria in the intestines which may be imbedded in clumps of undigested food and fecal material. It is not claimed that these products are worthless. They have their proper place in medicine. They are referred to here only to point out that it is absurd to expect any antiseptic action in the intestine.

With the subject of dilution we should consider also the possible influence on the active ingredient of other ingredients present in a preparation. Let us take for example phenol. Phenol Ointment U. S. P. contains two per cent. of phenol in a base composed of 93 per cent. of petrolatum and five per cent. of yellow wax. When this preparation is streaked on an agar plate inoculated with *Staphylococcus aureus* no inhibition of growth can be detected. This same strain of Staphylococcus aureus was killed in five minutes by a one to sixty solution of phenol in water.

Bacteriological reports have been studied on many products varying only slightly from the National Formulary Antiseptic Solution, the chief difference being in the relative proportions of the essential oils used. Some of the preparations examined were germicidal and others were not. Two ointments having the same base were tested. One contained only oxyquinoline sulfate. The other contained twice the amount of oxyquinoline sulfate and in addition a small amount of zinc oxide. Only the one containing the smaller amount of oxyquinoline sulfate was antiseptic. Many similar cases might be cited to show that the concentration of a given ingredient cannot serve as a guide to predict whether or not a product is antiseptic. Some ingredients appear to increase the antiseptic power of a mixture, and others decrease it.

The purpose of all antiseptics used on the body is to destroy harmful microorganisms. Sterilization, of course, must include the destruction of spores. Disinfection ordinarily does not include spore destruction. There is great doubt if even disinfection of the skin can be accomplished. The surgeon spends many minutes washing, mechanically cleansing and "disinfecting" his hands before an operation and then wears sterilized rubber gloves to prevent infection.

One author (2) in discussing some reported work in skin disinfection said: "It may be possible to completely disinfect the skin now and then, or even in 100 per cent. of all cases as these authors claim. To date no one has offered satisfactory experimental proof of any such contention."

If disinfection of the skin is so difficult to accomplish, what about the various body cavities ? Almost every periodical, scientific or popular, carries glowing advertisements for one or more of the many "antiseptic" mouth washes, guaranteeing to protect the user against any germ infection entering the body through the mouth, throat or nose. The mouth bacteria capable of doing harm are those located in the crypts and folds of the mucous membrane. Those floating around in the saliva are already on their way out of the mouth and are no longer to be considered as factors in mouth infections. Anything placed in the mouth has a tendency to increase the flow of saliva. This not only dilutes the preparation used, but tends to prevent it from entering the crypts where the majority of bacteria are located. The writer recently asked a bacteriologist to test the efficacy of one of these products by holding it in his mouth for varying periods of time. The results were surprising. The longer the product was held in the mouth the more bacteria were cultured from the expectorated "antiseptic," although the product when diluted with water to the same point as the dilution with saliva was found to be germicidal by the usual test tube experiments. Apparently some factor in the saliva destroyed the antiseptic properties of the preparation.

The press at the present time is being flooded with a type of advertising bearing scientific statements which would put an old time medicine show barker to shame. Strictly truthful data are given showing the time required to kill various types of bacteria, and the millions killed in this time. (No mention, however, is made of the fact that if more or less bacteria were used with a corresponding change in the amount of antiseptic a different number would be killed). Few advertisers state that the experiments were carried out in the test tube and even these word their statements in a manner intended to lead the reader to believe that he will get the same results on his body. Some tell of the enormous reduction in mouth bacteria after using *their* product, but, very naturally, fail to add that it is the bacteria remaining that are going to harm us. It has been said (3) that "a considerable variety of germicides are known at the present time which will destroy in the mouth, every organism with which they come in contact." One should read again the last five words and then place almost anything in the mouth and notice the immediate stimulation of the salivary glands in an effort to wash out the foreign material. This test alone will reveal the absurdity of the idea that a small amount of a preparation taken into the mouth will be able to resist being diluted at the point where it comes into contact with the mucous membranes and will be able to penetrate to the inaccessible recesses where the harmful bacteria usually are located.

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Drug Trade Publicity Up 4%

Drug and toiletries advertisers spent $38,732,911 in national magazines, national farm magazines and for radio broadcasting during the twelve months of 1930, a gain of $1,495,037 over the $37,237,874 spent during the twelve months of 1929. This was an increase of approximately four per cent. for expenditures of 1930 as compared with those of 1929, according to the Business Survey Department of Dorrance, Sullivan & Co., New York advertising agents.

Market Research

An Aid to Merchandising Plans

By A. D. Brush
Abbott Laboratories

IN ANY period of readjustment such as we have been passing through since the halcyon days immediately following the War, and particularly since 1924, the biggest problems of business, as a whole, shift from production to distribution. This is the period of crucial test which determines whether or not our business shall survive or perish. We face a problem which has one of three phases: First, to produce more sales without decreasing the profit from sales. Second, to maintain the same or better profit on the same volume of sales, or—Third, to maintain or increase the same margin of profit from diminishing sales. Plant and office economies can go only so far in maintaining net profits unless we are able to develop similar wise economies in the costs of distribution. Economies in distribution do not necessarily mean the firing of salesmen or curtailment of advertising. It may mean actual increase in either, or both. But it does imply *the elimination of waste* time, effort and expense and the concentration of effort upon those markets or products which are potentially most profitable.

Therefore, the problem is that of determining just what things are potentially profitable and thus it becomes a matter of investigation, analysis or research. Just as chemical research sets out with certain basic questions to be answered, so market research must find the answers to numerous questions, some of which, for convenience, may be classified under three main headings:

1. Where can we sell profitably ?
2. To whom can we sell profitably ?
3. What can we sell profitably ?

There is no question but that many business houses are in trouble because their hopes and aspirations have been centered upon large volume of sales rather than upon profit from sales. Profit, not volume, is the measure of business success. Exorbitant distribution costs, due to the effort to get volume of business at any cost, account for much of the small or no profit showings of many businesses. Two-thirds of the consumer's dollar today goes into distribution; only one-third into production. And this does not mean so much that the salesmen are paid too much money as it does that the management is wasting money by forcing the salesmen to interview unprofitable prospects in unnatural markets or in directing them to push lines or commodities that are essentially low profit makers.

First: Where is your market ?

Your market is only that area into which you can send salesmen or advertising to enough prospective customers financially able to buy a sufficient amount of your goods to yield your necessary margin of profit. We are too prone to reach out; to bite off more than we can chew; to covet a competitor's customer even though it may cost us more to get his business than the profit from that business may warrant. Many businesses today can, and some have, cut down on the size of their trading areas at a profit to themselves. Every one reaches the point of diminishing returns beyond which additional business may be secured only at reduced or no profit. One of the first steps, I believe, should be a study to determine your natural trading area, which may be one or more cities; one or more groups of counties, (trading areas) or one or more states, and a strict adherence to this "bounded by profit" area once it is established, until such time as it becomes feasible to extend further.

The principles of market analysis on a county basis will help here. Each county is analyzed as to population, purchasing power and number of prospective buyers. By giving each county, or area, a "rating", you quickly determine whether or not it is worth your exploitation. From your sales records you can tell which counties or areas are giving you profitable business and can use these as a "yard stick" upon which to base your consideration of others.

The method of county analysis may be as simple or as complicated as you have facilities to handle. In our work we have boiled it down to three important factors—first, purchasing power; second, population; third, number of prospects; i. e. doctors, druggists, hospitals, etc. If the area in which you do business consists of ten counties, or 100, or 1000 you obtain these three factors for each. Add the purchasing power of all your counties together and divide by the number of counties to get the average. Call this average "I" for purchasing power. Do the

same for population and for number of prospects, calling the average "I" in each case. Thus your hypothetical average county will have "I" for purchasing power, "I" for population and "I" for number of prospects. Add these together then divide by three (the number of factors) and you still have "I"; so that "I" is the rating of your average county, which you may establish as a yardstick against which to compare all others.

Set these county ratings up on sheets and they will quickly tell you that a certain county is potentially 10% or 15% or 50% of your market and should have a corresponding share of your sales effort, while another county is really not worth working at all.

Some market analysts may say that there are not enough factors here and can pick flaws in the method of rating, but we have found this system to work out very well for us during the past three years.

The different sections of cities may be similarly rated as it is possible to get the number of people and population characteristics by wards or neighborhoods. On a large map of the city, you can "spot" the locations of your customers and with the financial statistics and your personal knowledge of the racial and economic conditions of the neighborhood you can readily ascertain the potential business value.

Visualize your market by showing your best areas in red, second in yellow, third in green and poor ones in blue. Find out from your books just how much business you are getting from the blue and green areas, and from your salesmen's records just how much time they are spending in them and how much that business is costing you. If your experience is anything like ours, you will be surprised. But this will be of no value if you do not take the indicated action—either to cut them out entirely or greatly reduce the frequency of contact.

We have a large number of "blue" counties on our map. The salesmen are instructed to stay out of these, unless there are extenuating circumstances, and where it seems advisable for some contact, we send direct mailings into them. In other counties or areas, our men are instructed to call only once or twice per year.

By eliminating these unprofitable areas, you are enabled to concentrate more effort upon the potentially profitable sections. You will find too that this will help tremendously in forecasting your probable sales each year. The Lilly Company has done much work along this line and over a period of several years have forecast sales with amazing accuracy. The Corona Company over a period of four years showed an average of only 2.5% error in forecasting their yearly sales. If you know what your sales are going to be, you can tell how much you can afford to spend and plan accordingly.

Second: To whom can you sell profitable ?

Markets, of course, are not areas; they are people. In the best areas are many individual prospective customers who are not potentially profitable.

Customer A's account with you may be more than several thousand dollars a year and your salesman probably sees him every week or two. Customer B may buy only a few hundred dollars a year from you but the chances are that your salesman sees him every week or two, also. Has the gross profit on his business justified this expense ? Does his account show you a net profit or an actual loss ? Wouldn't you be better off if you called on him only five or ten times per year and used the telephone between visits ? How many of those calls resulted in a report of "wants nothing today" ? How much more time would your salesman have for developing more profitable accounts if he did not, at your command, waste so much of his time with potentially non-profitable prospects ?

You will find that about one-third of your customers are responsible for two-thirds or three-fourths of your business volume and for 90% or better of your gross profits from sales.

Here is an interesting tabulation from the analysis of a certain firm.

Business per Year	*% of Customers*	*Cost of Selling*
Less than $100.00	35%	88%
100 to 200	18%	25%
200 to 300	12%	16%
300 to 500	10%	10%
500 to 1000	14%	5½%
Over 1000	11%	2-⅛%

This particular concern stopped calling on those people who bought less than $300.00 per year—65% of their customers. Sales dropped 23%. Sales expense dropped from 9½ to 4¾% and a former deficit was changed into a tidy profit.

Another firm had 3715 customers but found that only 952 of them were buying in quantity sufficient to show a profit. These 952, or about 25%, were responsible for 76% of the total volume of sales and all of the gross profit from sales. The other 74% of their customers were being sold at a loss.

Investigations by the U. S. Chamber of Commerce show that similar situations are true in almost every line of business. Oftentimes buyers doing a very small business are daily visited by sales representatives whose combined costs amount to as much or more than the total daily business of that buyer. You may say that your salesmen use their heads and do not call upon prospects from whom they can't get business—or less frequently on those whose business is very small. This is true, but only to a limited extent. Salesmen are not analysists.

Third: What can you sell profitably ?

I am sure you all will agree that a salesman can sell $30,000.00 worth of certain types of goods and yet make less profit for you than another who sells only $25,000.00 worth of more profitable items. I am wondering if you go far enough in that direction.

A few years ago, a certain firm had well over 1500 separate items in their catalogue. They eliminated small selling items until now they have less than a

(*Continued on page 48*)

The package at the left gives way to the one at the right

Package Changes While Young

Changing a most successful package after only three and one-half years is the manner of Fougera, merchandisers of Vapex, a product less than seven years old, but replete with package improvements. Even though a product is remarkably successful in its present package, it should be still more successful in a better one.

WHILE manufacturers of old products often hesitate to change their containers and packages in general due to their fears that many buyers will fail to recognize the new package as containing the original article, those manufacturers who change gradually from time to time as conditions change slightly, are never faced with this problem and always have a product that appears modern in every respect. Three years and one-half might seem a short life for a package that has had remarkable acceptance by the consuming public. Yet E. Fougera & Company feel that since a better design for both the bottle and carton of their famous product, Vapex, has become available, they should not hesitate to change to it.

Lest the manufacturers of the older proprietaries be of the opinion that Fougera had little in the form of traditional acceptance to lose due to the comparatively short life of the package they are now discarding, let them recall the swift ascent of Vapex to astounding popularity only two years ago. And let them recall or investigate the lengths that Fougera went to protect that package against the hoard of imitators that did almost everything but steal the name of Fougera

itself. To discard a package only three and one-half years old after fighting one battle after another in the courts to protest it, is something that should command special attention in the drug trade.

While the change of package is not of such a nature as to make the buyer totally unconscious of the package that has gone before, some of the particularly distinguishing marks and phrases of the old package have been either done away with or subdued. Gained by the removal or subduction of these marks which have served as additional features of identification is a much cleaner looking package from the point of view of not being so cluttered with reading matter, as well as much more prominent display of the name. While the green triangle which formerly appeared directly below the name on the front panel of the carton, is gone, a much larger name on the front and sides of package, printed in a distinguishing type that is thoroughly modern in tone, is the result.

The bottle itself has been improved particularly from the view point of now having a restricted opening allowing easy dropping of the liquid rather than a full opening which was apt to cause spilling of the contents. Since the directions call for a few drops on the handkerchief, the full opening was difficult to use without too much of the contents coming out. With the restricted opening, the use of the product is greatly simplified.

The restricted opening naturally necessitates a screw cap. Here the significant green color of the old and new packages is accentuated by the use of a moulded cap upon the top of which is embossed the name, Vapex. The cap contains a patented type of closer which is said to be completely leak-proof.

Considering the short history of this product, the number of changes that have been made in its packages is unusual. Originally brought to this country and registered in the patent office in March 1924, the entire history of the product so far as this country is concerned is less than seven years. Originally, the product was sold here in its original English package. But shortly after an American package resembling the English was designed and produced here. This was a bottle resembling the common extract bottle, being tall and thin with the usual panels found on an extract bottle. Naturally this bottle had the same advantages from the point of view of both buyer and seller since it was quite easy for the buyer to pour a few drops from, and since it looked quite large.

But when E. Fougera & Company took over the entire advertising and merchandising of the product as well as the agency for it, things began to happen. The first step—more radical than the present one, but with not so much business at stake—was to change from the tall easily poured, but also easily spilled extract bottle to the small size that is to be continued. From this point on, a real advertising effort was made that caused Vapex to rise swiftly in one of most rapid ascensions to complete acceptance that has yet been recorded in drug trade history.

The history of Vapex is short but it has been most eventful. The movements made by this aggressive company will bear close watching since Vapex is still in the process of development as is evidenced by this latest change in package design.

Many of the manufacturers of preparations far older than "Vapex" can profit from the example set by this comparative youngster. Apparently the manufacturers of Vapex appreciate the youth of their product and intend to keep the product young. Constant changing to keep it in the tempo of the times will prevent the package from becoming old and stuffy. It will also always shout out from the drug store counter and shelf to tell prospective buyers that it is there. It will also continually attract the user as steady improvements are made to make its use easier and cleaner.

Dr. East Stopped by Dr. West

The Western Co., Chicago, manufacturers of Dr. West's Toothbrushes, has obtained a permanent injunction in the United States District Court, Northern District of California, Southern Division, against a brush importer on the Pacific coast who was marketing a toothbrush under the trade name of "Dr. East." The defendant was restrained from using, selling or in any way handling any toothbrushes whereon the name "Dr. East" was displayed on either the toothbrushes or the cartons in which the brushes were packed, or on any literature or display material previously furnished by the defendant to the trade as tending to cause confusion in the mind of the consumer as to the identity of the product.

Carter's Liver Pills Counterfeited

Five men were arrested in Atlantic City recently charged with the manufacture and distribution of imitation Carter's Little Liver Pills. In a raid on the home of a local chemist, police, it is said, found more than a truckload of bottles and boxes, counterfeiting the Carter labels and containers.

More than 100 plates for making boxes and labels, found at an Atlantic City print shop, were confiscated, and the printer arrested. Besides the chemist and the printer, three other men were arrested, including a garage owner, a salesman, and a wholesale druggist, and were held on $10,000 bail each. All were indicted at a grand jury hearing at May's Landing, N. J.

Parke, Davis Sues for Tax

Parke, Davis & Co., Detroit pharmaceutical supply manufacturer, has filed suit in federal court for $100,000 against the bureau of Internal Revenue. The firm claims that between 1922 and 1926 the government collected that sum in corporation taxes illegally.

In its bill, the company sets forth that it paid the money to the Internal Revenue collector under protest, pointing out to him that it had already paid taxes to the governments of New South Wales and Queensland, both British possessions. The Internal Revenue law provides that a corporation which pays taxes to a foreign government shall be credited with the amount paid.

Ewing Galloway

Merchandise from the United States on the wharf at Maracaibo, Venezuela

Drug Business in Venezuela

A neighboring country spending large sums of money on medicinal products from this and other countries, Venezuela is well worth the attention of American manufacturers of drug and toilet preparations.

By W. C. Gracey

WITH an area of nearly four hundred thousand square miles, Venezuela is approximately the size of the fourteen States bordering on the Atlantic ocean with West Virginia included, and has a population of slightly over three million. Over two million are whites and *mestizos*—the latter a mixture of the original Spanish settlers with the natives—the balance being negros and negro mixtures.

The country is largely agricultural in population, and exports large quantities of coffee, cacao, petrolium, balata, hides and skins, sugar, gold, tobacco, asphalt, cattle and maize.

Climatically, the tropical heat of the coastal areas and the extensive plains and river valleys—gives way to the mild and equible conditions of the mountain sections and high plateaus, where the capital, Caracas, is located. A range of hills stretches across the northern part of the country, running parallel with the coast, and turning towards the southwest reaches Maracaibo.

The highlands are healthy, suffering only from the usual diseases that are prevalent in this country, but the residents of the lower lands are affected by the usual diseases prevalent in the tropics. Malaria, typhoid and dysentary are common, as in other coun-

tries near the equator, and there are large calls for quinine and medicinal preparations containing that drug, as well as specifics suitable for the cure of bowel complaints.

The latest statistics from Venezuelan sources—those of 1928—show the total imports of Drugs and Medicines to be $1,860,361 per annum, about one-third coming from the United States, an equal quantity from France and the balance originating in Germany, Netherlands, United Kingdom and Italy.

In the same year, essential oils to the value of $58,170 were imported—of which $38,000 came from the United States; and $194,063 of perfumery, fine soaps and powders,—50% from France, 28% from the United States and the balance from Germany.

Quinine appears as a separate article to the value of $57,672—$28,177 from Germany and the balance from the United States.

The statistics do not consider imports by Parcel Post, which is considerable, approximately 20% of the total import.

The 1928 figures under main groups were:

Medicinals	$645,000
Toilet preparations	79,000
Crude drugs and essential oils	17,000
Washing powders and fluids	3,000
Baking powder	6,000
Petroleum jelly	5,000
White mineral oil	2,000
Metal and stove polishes	3,000
Leather dressings and stains	1,000
Floor wax, wood polishes	7,000
Household insecticides	114,000

The statistics of our own government for 1928—which are given in order that they may be compared with the Venezuelan data—cover the following particulars:

Biologics	$ 26,000
Quinine sulphate	9,000
Medical plasters	3,000
Medicinals for external use	124,000
Medicinals for internal use	455,000
Other non-coaltar products	83,000
Perfumery and toilet waters	2,000
Talcum and toilet powders	8,000
Creams, rouges and cosmetics	9,000
Dental creams	37,000
Other toilet preparations	23,000
Essential oils	11,000
Linseed oil	3,000
Other crude drugs	3,000
Flavoring extracts	29,131
Soap	66,185

Thirty years ago our exports to Venezuela were only about $70,000 annually, but they have increased up to the present to over $700,000, practically a thousand per cent. In 1913 they were less than $200,000. We occupy a preferred position in the trade, and the future outlook for American trade appears very promising.

Our exports of biologics has increased from $4,000 in 1922 to $26,000 in 1928, over 600% in five years and is still growing.

The Venezuelan government sanitary department is very active in endeavoring to eradicate the causes of the more prevalent diseases, and follow carefully our successes in preventive medicine.

American manufacturers are realizing the importance of the Venezuelan market, and the sympathetic attitude of the governmental official toward American exporters. Considerable advertising of our products is being carried on by American manufacturers, with satisfactory results.

In preparing goods for this market, labels, and all printed matter, directions for use of medicines, etc. should be in Spanish, as should also the advertising cards and messages. When labels are not prepared in Spanish, the difficulty can sometimes be overcome by the insertion inside the box or package of a Spanish translation of the English directions. Changing of the name of the product into the Spanish equivalent is usually not necessary, and not to be recommended. The people have become familiar with the American name, and look upon a change to a Spanish equivalent, sometimes, as a change of quality, or as a different product.

The preponderance of the use of American drugs in Venezuela, is largely due to the fact that more and more of the medical men of that country are securing their education in the United States—when formerly they went to France—with the result that they are becoming familiar with our pharmacopoeia and on their return to their own country, incline toward American manufactured products.

As in many other Latin American countries, proprietary medicines are prescribed generally by physicians, to a much larger extent than is customary in this country. This is partially owing to the difficulty of having prescriptions properly compounded in outlaying places, and also because they are convinced that American prepared products are accurately made and of standard quality.

In Venezuela, pharmaceutical specialties, either of domestic or foreign manufacture, for human, veterinary, internal or external use—which includes medicinal bitters and wines, hair dyes, depilitory preparations, children's foods, preparations used for the conversion or purification of water, or other foodstuffs, etc.—cannot be sold in the country except on permit issued by the Director of National Sanitation. Without such permit they are considered "secret remedies," and their sale is prohibited.

Drug products can only be sold in pharmaceutical establishments authorized to sell medicines. Health foods, mineral table waters, toilet and hygienic preparations, medicinal soaps, and cosmetics not containing

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A pair of Japanese Drug Merchants

Drugs for Japan

By Walter Buchler

THE Japanese are the most progressive nation in the Far-East, a people ever anxious to adopt modern ideas and habits and to appear up-to-date. They are still superstitious, not very particular in their ways of living and diet, and thus they provide ample material for the medical profession. The Japanese doctor does not wait for the patient to come to him as in other countries, but he boosts himself, his skill, and his specialties through advertising in the Press, by large signboards, and even by posters on telegraph poles. This medical advertising campaign, a feature of Japanese life, is only surpassed by that of manufacturers of proprietary and patent medicines, which are exceedingly popular in Japan. How much more convenient and cheaper to buy a packet of pills than to visit the doctor and pay from $1 upwards (and often in advance). The average Japanese will probably do both in the end: buy his pills and see the doctor. In Japan there is not that same strict control over what is sold to the people as food or as medicine as in other countries, and there are hundreds of small manufacturers of patent medicines, some of which would not be allowed to be sold elsewhere. The fact that every proprietary medicine has to be registered at the Japanese Home Office has not made the people any more particular as to quality. There are now over 188,260 proprietary medicines registered

A Japanese sales force

in Japan, and about 231,000 retail dealers handling them. The Government derives quite a good income from the sale of these medicines, which have to have a revenue stamp to the amount of 10 per cent of the declared value. Revenue from this source in recent years averaged annually $4,000,000, which means that at least $40,000,000 worth of patent medicines are sold every year in Japan.

The Japanese domestic industry in pharmaceutical, medicinal, and biological preparations has grown tremendously in recent years, and although it is more of a household industry and not organized as in other countries it is a very prosperous one. There is not much originality in Japanese medicines and drugs, as many are mere imitations or rather attempts at imitation of foreign products; they are certainly inferior in quality to the latter. Japan imported during the past few years the following:

There is an import duty of 30 per cent., which makes it difficult for foreign goods to compete with local manufactures in price. But the inferior quality of the latter and the partiality of the Japanese for foreign made goods (hakurai-mono) have made Japan an assured market for imported medicines. Exporters should not try and compete with the Japanese article in price by making an inferior quality, but they should sell on the basis of quality. The Japanese are willing and able to pay reasonable prices for medicinal preparations, and more if of foreign make. There is large demand for stomach remedies to relieve gastritis and indigestion in its various forms. These are common ailments in Japan owing to the large quantity of rice, pickles, etc., which Japanese consume without proper mastication. Sexual diseases are also very frequent among the Japanese, their outlook on such matters being different from the Western. Medical preparations etc. for such diseases have already sale in Japan. As all drugs and medicines sold in Japan must conform to the Japanese Pharmacopoeia, those intending to enter that market should obtain a copy, so that preparations can be employed without change. Japanese druggists handle the same kind of articles as druggists do here, such as toilet articles, perfumery, tooth pastes, and tooth powders, for which there is also an excellent demand.

The Japanese are fond of bright designs and well-got-up packings, but no attempt should be made to bring out Japanese ideas, and excepting instructions as to use being in both Japanese and English, everything else should be entirely foreign. Japanese manufacturers realize the cause of the people's preference for foreign goods, and often imitate the latter to the best of their ability. In this they are successful except in quality, but frequently give themselves away by making spelling mistakes. Those entering the market should not fail to register patents and trade-marks with the Patent Bureau in Tokyo, otherwise their manufactures are certain to be imitated as soon as they are successfully established in the market.

To open business with Japan it is advisable to appoint a reliable firm already established in that market as one's agents. Japanese merchants are buying direct from manufacturers and exporters. In accepting any such direct orders, exporters should insist upon an irrevocable credit being opened at the same time as the order is given. The larger manufacturing chemists will find it profitable to establish their own branches in Japan (Kobe, Osaka, or Tokyo), as it is essential to carry stocks on the spot, and conduct intensive advertising campaigns in order to obtain a firm footing in the market.

When opening an office in Japan, the foreign representative should not neglect to acquire a speaking knowledge of Japanese, which is not so very difficult and can be done in a year, for a knowledge of the language helps both to increase business and to safeguard one's interests in one's dealings with Japanese merchants.

Export Difficulties In Argentina

An appeal taken by Compania Industrial Famaceutica of Buenos Aires from the ruling made effective in Argentina making it unlawful after June 21, 1930 to import medicinal specialties in bulk with the object of repacking in smaller units, has been sustained. The appeal granted against the decree has been granted and it is now lawful to repack medicines within the country.

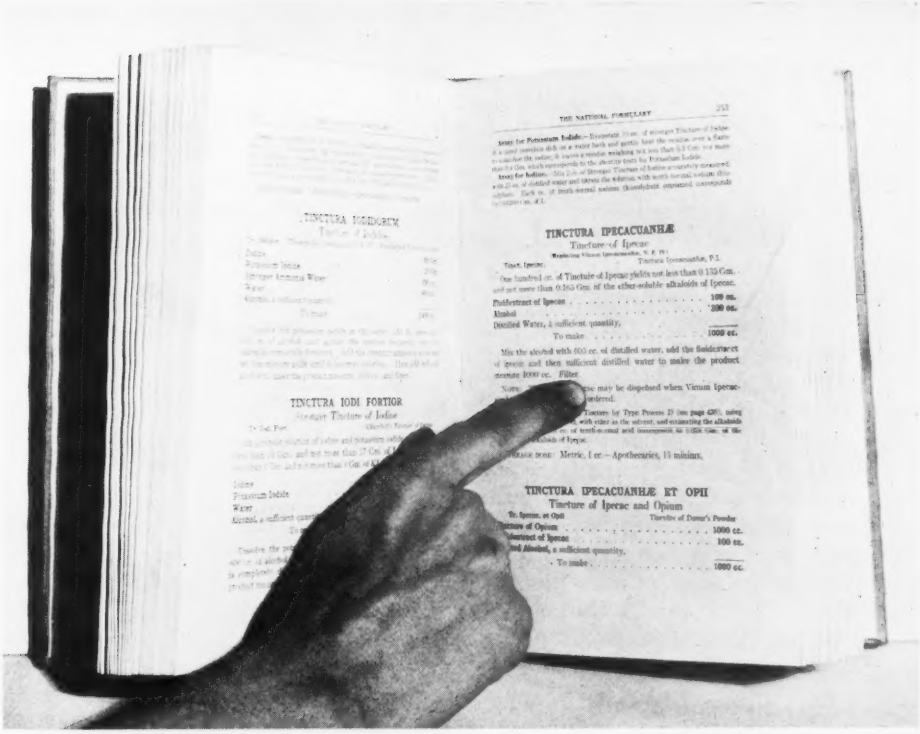
Another proposed set of regulations which would have a far-reaching effect on American firms doing business in Argentina is now proposed. These regulations include among other things that (1) Medicinal specialties will not be considered as such if they are susceptible to preparation from prescriptions, and the preparation of which can be effected by any laboratory or pharmacy. (2) It is the privilege of pharmacies to prepare pharmaceutical specialties, and only pharmacists have the right to exploit the initial sale of these to the public. (3) Applications for authorization to distribute medicinal specialties made in the country can only be presented by national pharmacists or those registered in the National University, and these shall be considered by the Department of Hygiene as sole proprietors of such specialties. (4) Authorization for sale of a specialty must be registered annually, and each time there will be issued a registration number which must appear on the package.

If these regulations become effective it would mean that local factories of foreign firms would practically lose control of their products in the Argentine market, and would be placed under control of local pharmacists.

Costa Rica's Narcotic Monopoly

Costa Rica's bill for establishment of a government monopoly in narcotics, approved by the Congress, September 26, 1930, is now in effect and absolutely prohibits importation of crude and prepared opium, cannibis indica, and heroin. Imports and sale of opium, cocaine, heroin, cannibis, and all derivatives and salts of these materials, as well preparations containing these drugs are declared to be contraband and subject to confiscation. Severe penalties will be inflicted upon persons in possession of these products.

Armstrong Cork Co., Lancaster, has added Du Pont Cellulose Caps and Bands to their closure line. Effective January 1, 1931, the Armstrong Cork Co. took over the distribution of these caps and bands in all of the United States with the exception of the states of New York, part of New Jersey, California, Oregon, Washington, Nevada, Colorado, Utah and Arizona.



The Drive for Official Drugs

While retail organizations rant and rave about co-operation between physician and pharmacist to the end that nothing but official products shall be prescribed, little, if anything is heard from the manufacturers. Let us look at both sides.

COMPETITION within the drug trade itself covers a rather broad range of cross-currents. Not only are the manufacturers in competition with one another, as are the wholesalers and retailers who sell within the same territory, but wholesalers are definitely in competition with virtually all the manufacturers, and a large percentage of the retailers likewise are continually attempting to wrest from the manufacturers part of the profits that the manufacturers would obtain in the ordinary course of business development.

The determined efforts of some retailers in all localities, and of large groups of retailers in restricted localities to promote the use of official drugs as opposed to the ethical specialties of manufacturers well illustrates the competition that manufacturers feel from retailers. Likewise the attempts of retailers to promote the sale of their own and wholesalers' private brands illustrates the competition from the same source. In the first instance, the retailers seek and secure the aid of the physicians in their localities, while in the second instance, the aid of the wholesaler is thrust upon the retailers.

In meeting this type of competition within the trade, the manufacturer must step softly since it would not do to antagonize the retail trade to further detriment of the sale of his own products. As with price maintenance or any other policy in which the

retailer is interested to the probable disadvantage of the manufacturer, no single manufacturer will take upon himself the job of telling the druggist that he is wrong or that the manufacturer definitely disagrees with him and will work in the opposite direction. Thus there is little heard of manufacturers making any effort to oppose retailers in their determined efforts to side-track the specialties of manufacturers in favor of the official products which the doctors are being induced to prescribe.

That the druggist is entitled to a fair profit on his prescription department is the true thought of all. But that he is entitled to any exhorbitant profit on this one department of his establishment is seriously open to question. The reason why the retailer feels he is entitled to charge heavily for anything that is guarded from the public by latin signs and symbols, is that it is this one department that makes necessary the licensed pharmacists in his store as well as his own professional education. He argues that he must be subject to all sorts of regulations, permits and licenses to satisfy the needs of this one department which constitutes a rather small part of his gross business.

Prescriptions Might Sell at Loss

He forgets, however, that it is this department that allows him to call his establishment a drug store and brings him a ready-made demand for products which otherwise no one would enter his place of business to obtain. He forgets that the prescription department is the heart of the business, not from a profit standpoint, but from bringing him the business on those things that furnish the income necessary to maintain his establishment. It is quite conceivable of pharmacies in general reaching the point at which the prescription department would be carried on at no profits, or at a loss, because of these facts.

Yet the average retail pharmacist is of the opinion that he must charge exceedingly well for prescriptions, and because he is determined upon this policy, he is trying to increase the percentage of drug sales that he dispenses in the form of doctors' prescriptions for official preparations.

It might appear strange at first thought that the pharmacist's interest lies solely in prescriptions for official preparations. Why is he not as interested in prescriptions for ethical specialties of manufacturers ? Surely, the retail pharmacist has no hesitancy in charging a much higher price for an ethical specialty brought on a prescription than he would charge for the same item if asked for by its trade name. The trick of dispensing a small number of tablets, or a small amount of liquid in his own container is extensively carried on. Also the trick of placing his own label over those of the manufacturers—many of which are made easily removable as a means of co-operation with the druggist—is not disappearing. But still the druggist would rather dispense only official preparations.

There are obvious conclusions to which these facts must lead. One of these is that the druggist wants to be free to buy his prescription drugs where he sees fit. In other words he is going to obtain his official preparations from the house that gives him the best price. Perhaps he might be able to do business on a more profitable plane if he were able to buy these products solely from his wholesaler who makes them or buys them in bulk and can offer at a price below any of the products bearing the mark of a nationally known manufacturer. Or perhaps he wants to keep his prescription prices to the customer as low as possible and feels a little chagrined when he quoted the customer a price considerably above the fair selling price of the manufacturer for the same goods.

Trying to Protect Profits

Then there is the reason responsible for the druggist's enthusiasm for official products which is akin to the physician's dislike of proprietaries of any kind. The doctor's dislike is fear of self-medication and loss to himself of money derived from the call of any patient. In the same manner, the pharmacist is probably of the opinion that the promotion of any specialty might eventually lead to full public knowledge of the name of the specialty to the end that the product would be one that will cease to bring the additional revenue attending prescription products. He believes, as the physician does, that after the product is sufficiently well known, the manufacturer will advertise the product direct to the public and thus cut further into his prescription department, making it possible for people to ask for the product by name and probably buy it at less than the list price rather than at an advance over the list.

Another factor that enters very materially into the situation is that of professional pride. The druggist is a professional man who spent years learning the facts of pharmacy. One of the most obvious ways in which he can employ his skill is by preparing prescriptions. Also the time of licensed pharmacists is thought to be largely wasted, if, during the dull times of the day, they do not busy themselves behind the prescription counter. The pharmacist also is quite apt to feel that he must protect his profession against those who would rob it of its essentials, and that the decrease in prescription compounding of official preparations is very harmful to the professional standing of each and every pharmacist.

But despite the attitude of the retail druggist, as with the attitude of physicians toward ethical medicinal specialties, the manufacturer must not be diverted from his course of trying to obtain sufficient revenue from his newly developed products to pay for the money invested in these products. Certainly there would be but little advance in the science of improved medical aid for correction of various diseases if it were not for the manufacturer. Wholesalers and retailers, as well as other distributing

(Continued on page 46)

Analysis of Seidlitz Powders

Blank & Stoller

In checking seidlitz powders available in the drug trade, Mr. Putt finds products with a percentage of sodium bicarbonate in excess of U. S. P. standard, as well a degree of fineness far removed from that of "fine powder".

By Earl B. Putt*

ALTHOUGH it is a drug recognized by the U. S. Pharmacopoeia under the title of Pulvis Effervescence Compositus, Seidlitz Powder, as dispensed by the average drug store is a product prepared for the druggist by a manufacturer or jobber and supplied in boxes bearing the private brand of certain wholesalers, jobbers and retailers. In selling this article over the counter the druggist appears to assume a certain responsibility for the U. S. P. quality of such seidlitz powder that may not always be justified. As is well known, seidlitz powders are packaged in the form of double powders; one, a blue paper containing a mixture of sodium bicarbonate and potassium and sodium tartrate; the other, a white paper, contains tartaric acid. The U. S. P. specifics that the blue paper shall contain not less than 9.5 grams and not more than 10.5 grams; also it shall contain not less than 23% and not more than 27% of sodium bicarbonate; the whitepaper shall contain not less than two grams and not more than 2.4 grams of tartaric acid. All of these ingredients are required by the U. S. P. to be "Dry and in *Fine Powder*."

Methods of assay are provided in the Pharmacopoeia for the determination of sodium bicarbonate, potassium and sodium tartrate and tartaric acid. These requirements are so plain that there seems little excuse for any manufacturer preparing a seidlitz powder deviating from the U. S. P. standards, but there is an additional requirement of the Pharmacopoeia in that all the ingredients are to be in *fine powder*.

In the opinion of the writer, fine powder, as a pharmacopoeial term should mean powder of 60 mesh fineness, since this significance attaches to the U. S. P. term fine powder as applied to vegetable drugs. In order to secure additional authority on this point, the Food and Drug Administration, Division of Drug Control at Washington was asked for an opinion as to whether the ingredients of seidlitz powder should be 60 mesh in order to yield a U. S. P. Product. This Authority rendered the following informal opinion:

"The tenth edition of the United States Pharmacopoeia provides on page 307 that the several ingredients of seidlitz powder shall be "in fine powder." The only standard given in the Pharmacopoeia for "fine powder" is that for vegetable drugs. However, since the solubility and rapidity of effervescence of seidlitz powder is dependent upon the fineness of the particles it is our opinion that this product should be of approximately the same degree of fineness as that given for vegetable drugs."

If, therefore, Seidlitz Powder should be "approximately the same degree of fineness," namely, 60 mesh, "as that given for vegetable drugs" there may be some doubt as to just how much variation may properly be allowed from the 60 mesh requirement. As a practical matter, it would seem that a 10% tolerance would be

*Seil, Putt & Rusby, Inc.

just. In other words, if not less than 90% of the powder passes through a 60 mesh sieve, it would seem fair to consider this as meeting with the requirement of being approximately 60 mesh.

In order to ascertain the average quality of Seidlitz Powder as sold in New York City, the writer purchased 25 boxes of seidlitz powders from as many drug and department stores at random in New York City and New Jersey. These samples were then carefully analyzed with the following results:

Analysis of Seidlitz Powder (Blue Paper)

	Average Weight Contents in Grams		*Per Cent Sodium Bicarbonate*		*Per Cent Through 60 Mesh*
Sample	*Found*	*U. S. P.*	*Found*	*U. S. P.*	*Sieve*
1	9.94	9.5 to 10.5	26.6	23 to 27	*42.4
2	9.55	9.5 to 10.5	*27.3	23 to 27	*36.0
3	9.80	9.5 to 10.5	25.4	23 to 27	95.6
4	10.27	9.5 to 10.5	25.2	23 to 27	95.2
5	10.29	9.5 to 10.5	25.2	23 to 27	95.4
6	*9.39	9.5 to 10.5	27.0	23 to 27	*35.5
7	*8.93	9.5 to 10.5	26.4	23 to 27	*41.8
8	*8.97	9.5 to 10.5	26.9	23 to 27	*36.6
9	9.82	9.5 to 10.5	*32.5	23 to 27	*40.8
10	9.97	9.5 to 10.5	25.1	23 to 27	95.3
11	10.10	9.5 to 10.5	25.6	23 to 27	92.2
12	10.11	9.5 to 10.5	25.6	23 to 27	92.8
13	10.11	9.5 to 10.5	25.2	23 to 27	91.5
14	10.00	9.5 to 10.5	25.6	23 to 27	*37.1
15	9.89	9.5 to 10.5	24.0	23 to 27	*30.0
16	9.85	9.5 to 10.5	*28.2	23 to 27	*44.5
17	10.03	9.5 to 10.5	*28.2	23 to 27	*41.5
18	9.94	9.5 to 10.5	24.8	23 to 27	92.6
19	10.32	9.5 to 10.5	24.6	23 to 27	91.3
20	9.89	9.5 to 10.5	24.8	23 to 27	91.3
21	10.21	9.5 to 10.5	25.0	23 to 27	93.3
22	10.11	9.5 to 10.5	*35.7	23 to 27	*48.2
23	10.01	9.5 to 10.5	24.8	23 to 27	91.9
24	9.88	9.5 to 10.5	*28.7	23 to 27	*43.5
25	9.84	9.5 to 10.5	*31.2	23 to 27	*41.2

*Not U. S. P.

Examination of the above analyses discloses that only 12 out of the 25 samples analyzed are fine powder (60 mesh) to the extent of 90% or better. It is of further interest to note that everyone of these twelve samples also meets the U. S. P. requirements for net contents of the powder and shows a U. S. P. content of sodium bicarbonate. Even though these 12 samples are not all packed under the same label, there is some indication that all or nearly all of them are the product of one manufacturer, since the style of wrapping and wording on the sealed powders are all alike.

Seven of the samples examined show excessive percentage of sodium bicarbonate, constituting a direct deviation from U. S. P. formula. The samples above listed were purchased from representative stores under well known labels, but they are tabulated without identification, for, if otherwise, some well known names might be embarrassed.

The situation disclosed by the above survey does not of course necessarily indicate a deliberate attempt to adulterate this well known U. S. P. article, but it does show careless manufacture. Since sodium bicarbonate is a very much cheaper ingredient than sodium and potassium tartrate, some suspicion might attach to the fact that some of these powders are on the upper limit of the U. S. P. tolerance for sodium bicarbonate, and many of them are sufficiently high in sodium bicarbonate as to be unquestionably adulterated. There seems no reason why seidlitz powder should not be manufactured with the same care as any other U. S. P. article. The manufacturer who maintains the proper analytical control should have no difficulty preparing a U. S. P. article of uniform quality, for at least one manufacturer has indicated that he seems to have no difficulty in maintaining a product of quite uniform composition and fineness.

The temptation to substitute sodium bicarbonate at a cost of approximately 1/10 of the other ingredient may be strong in a competitive market. Furthermore, it costs money to reduce these ingredients to a U. S. P. powder, and a careless manufacturer in order to meet a price, may readily furnish a powder failing to meet both these U. S. P. requirements.

It is such a simple matter to check the composition and fineness of this article that it would seem common prudence for any purchaser of seidlitz powder to investigate the U. S. P. quality before accepting delivery of Seidlitz Powders offered by a manufacturer or jobber.

Merz Again Heads S. O. C. M.

The Ninth Annual Meeting of the Synthetic Organic Chemical Manufacturers' Association of the U. S. was held Thursday, December 18, 1930, at the Hotel Commodore, New York, with an attendance of about sixty.

After the luncheon, August Merz, president of the Association, and others addressed the members. Officers for the ensuing year were elected as follows: President, August Merz, Calco Chemical Co.; 1st Vice-president, Dr. E. H. Killheffer, Newport Chemical Works; 2nd Vice-president, S. W. Wilder, Merrimac Chemical Co.; four additional board members being Ralph E. Dorland, Treasurer, The Dow Chemical Co.; E. G. Robinson, E. I. du Pont de Nemours & Co.; A. L. Van Ameringen, Van-Ameringen-Haebler, Inc.; and E. A. Barnett, John Campbell & Co. C. A. Mace was reappointed secretary.

F. C. Waterbury Dies

F. C. Waterbury, founder and president of the Waterbury Chemical Co., Des Moines, Iowa, died in Bloomington, Ill., December 8, in his sixty-fourth year.

Mr. Waterbury was born in Freeport, Ill. He was a clerk in a Des Moines drug store when he organized the Waterbury Chemical Co. He left a widow, a son, and a daughter.

Nupercaine, described as a local anesthesia lasting four to twenty hours has, within a remarkably short time, been extended to all parts of the United States, reports the Ciba Co., Inc., New York, distributors of this product. Nupercaine fills the long-felt need of physicians concentrating in such fields as surgery, gynecology, obstetrics, urology, laryngology, rhinology, dermatology, and proctology, it is said. It is six times more persistent than cocaine or procaine, effective by topical application as well as by injection and materially reduces postoperative analgesic medication.

Sterilizing for Stability

In this article especially extracted from the report of a meeting of the German Pharmaceutical Society, some highly interesting facts are told regarding the effect of sterility on the stability of pharmaceuticals.

THE esters of p-oxy-benzoic acid are known to have anti-developing and destroying effect on microorganism. Both effects increase in proportion to the content of the alkyls. By testing the destroying effect on *Staphylococcus*, the methyl ester has 2.6 times; the propyl ester, 15 times; the benzyl ester, 83 times effect of phenol. In preventing the development of microorganism, the methyl ester has three times; the propyl ester, 17 times; the benzyl ester, 109 times effect of phenol. For this reason their use in sterilizing and keeping substances sterile, such as foodstuff and pharmaceutical and chemical preparations, was considered. The test by K. Schuebel and J. Manger have proved that these esters are less harmful than preservatives heretofore known. These esters are two to four times less harmful than benzoic acid so their discovery is considered to be a forward step in hygiene.

C. Moderspach and C. Berthelsen have proved that watery solutions, including distilled water, made up in pharmacies and stored there, in many cases contain a considerable amount of different microorganism. Especially noticeable in such cases is the growth of microorganism in infusions, decoctions and syrups. Dr. Th. Sabalitschka and I. Boehm also made tests in connection with microorganism in a number of pharmaceutical solutions as well as in distilled water. The solutions used were made up in accordance with the usual regulations of pharmacies and were stored in the usual manner.

Tests showed that after a period of four to twelve months various living microorganism, such as coccus, rods, sarcines, actinomyces, bacteria, subtilis, yeast, mold etc., were found in a physiological table salt solution; 20% sodium bromide solution; 5% sodium salicylate solution; 1% arsenious acid solution; 2% morphine chloride solution; 1% codeine phosphate solution; as well as in the following solutions which are often used as antiseptics: 3% boric acid, 1% zinc sulphate and 4% potassium chlorate. Artificially applied *staphylococcus* were not destroyed in any of these solutions. Since distilled water contains microorganism, it is possible that the microorganism detected in these solutions came from the water used. However, there is also the possibility that these microorganism came from the different dissolved chemicals which were used to make up the preparations. In most cases, the microorganism might have come from the air or from the corks. When these solutions were treated with 0.1-0.15% of the methyl ester of p-oxy-benzoic acid or treated with an 0.1% mixture of equal parts of the methyl and the propyl esters of p-oxy-benzoic acid, they proved to be sterile under the same conditions. All artificially applied microorganism were destroyed within six days and in most cases this happened within three days. The microorganism in these solutions would act as germs only in certain cases with their presence in these solutions and in a pharmaceutical preparation is at least undesirable. In drinking water a maximum content of only a hundred germs for one ccm is allowed. For this reason the presence of larger quantities of microorganism in pharmaceutical solutions and pharmaceutical preparations should likewise be considered. Solutions used for treating the eyes as well as for injections or treating wounds should not contain any living microorganism. There is another reason for eliminating microorganism since their presence influence the dissolved chemicals with the result that therapeutic action is more or less reduced. Dr. Sabalitschka at one time noticed the complete reduction of a potassium chlorate solution to potassium Chloride due to the presence of microorganism. Alkaloids and glucosides are especially easily destroyed by microorganism.

It is possible to sterilize simple chemical solutions by heating them up to 100-115° for a certain time. This particular means of sterilizing cannot be employed with substances which decompose at such a temperature. On such substances, tyndallizing, asepticizing, or special filters have to be used. Certain substances

cannot be treated by tyndallizing since the temperature for this process would also be too high; hence they are treated by the aseptic method or with filters. This is done, for instance, with serums and vaccines. Tyndallizing, asepticizing and filtering do not guarantee sterilization and this fact is emphasized in the German Pharmacopoeia. A sufficiently sterilized and germless solution will remain stable as long as no microorganism is allowed to come in contact with it later on. For this reason it is advisable to add an antiseptic to all preparations used for injections. It is absolutely necessary to add the antiseptic in cases where a method of sterilization is used which does not guarantee complete germlessness. Many preparations used as injections, such as vaccine, contain 0.5% of phenol. The German Pharmacopoeia mentions the possibility that solutions can be sterilized through the addition of an antiseptic. However, it is not stated what kind of an antiseptic should be used and the choice is left to the individual. Dr. Sabalitschka and E. Boehm tested the effects of phenol and other antiseptics used in injections, such as tricresol and chloretone. Furthermore, they conducted tests with the propyl ester of p-oxy-benzoic acid and its sodium salt, known to be very easily dissolved in water. Tests made with bouillon containing different kinds of microorganism showed that the antiseptic and sterilizing effects of 0.05% of the propyl ester were better than with 0.25% of phenol. Similar results were obtained when the Sodium salt of the ester was used. Chloretone was ineffective. Next in effect after the propyl ester came tricresol. The disadvantages of the latter are its poisonous odorous and its irritating effect. For these reasons E. Leschke considered the possibility of using Nipasol and its sodium salt as antiseptics in solutions used for injections. For his experiments he used the sodium salt, on account of its better solubility. In cases where chemical reaction was feared he used the pure ester. No decomposition resulted when these antiseptics were used. Mr. Leschke recommends 0.04% of the propyl ester or 0.2% of its sodium salt. At these concentrations, both substances are absolutely nonpoisonous and non-irritating in subcutaneous, intermuscular and intervenous injections. Mr. Leschke recommends the use of these esters for the sterilization of liquid drugs which are used internally as well as externally, e. g., infusions, decoctions, syrups and similar products. Syringes should be cleaned with an 0.2% solution of the sodium salt of the propyl ester. The propyl ester is ideal for sterilizing catgut and silk. Mr. Leschke claims that the use of the ester of p-oxy-benzoic acid for the sterilization of drugs is an important and practical step in the field of internal pharmacotherapy. Mr. Eschenbrenner and Mr. Klein discovered that these esters are absolutely non-irritating when used for the sterilization of eyedrops. Mr. Klein recommends an addition of 0.04% of the propyl ester of p-oxy benzoic acid to eyedrops and considers a long desired preservative from a hygiene and an economical standpoint. The antiseptic properties of the p-oxy-benzoic acid esters can also be taken advantage of in solid substances. Boric acid powder and talcum which were treated with 1-3% of the methyl ester of 2-6% of a mixture of the esters did not contain any living germs after a period of 2½ years despite the fact that these substances were frequently exposed to the air and thus subjected to germs. This sterilization treatment was accomplished by a heating process. At 70° the esters became volatile with the result that they were finely distributed throughout the substances. Samples of boric acid powder and talcum to which the esters were not applied showed, after the same period of time, the presence of several living microorganism. That such powders are sterilized and kept sterile by treating with the esters is an important matter. For instance, Boric Acid powder is used on wounds and also on the hand of the surgeon. These esters are not only to be used for sterilizing but an antiseptic powder mixture can also be made with them. A test made with bouillon containing bacteria of the colon group and staphylococcus, proved that the addition of boric acid did not destroy these germs within 24 hours. However, 3% methyl ester added to the boric acid powder was sufficient to destroy these germs within five hours. When the addition consisted of 1% of the methyl ester and 1% of the propyl or ethyl esters, the same effect was reached within two hours. On account of their antiseptic and sterilizing effect, the p-oxy-benzoic acid esters can also be used to sterilize other substances such as, bandages and catgut. Mr. Kneidinger proved by tests that these esters can be used in dentistry for treating inflammation, abscesses, and in mouth wash solutions. Dr. Sabalitschka's studies of chemical substances and their preserving effects have resulted in his not only finding ideal preserving substances, but which at the same time can be used as sterilizers and antiseptics.

Salesmen Hold Christmas Party

The Chemical Salesmen's Association of the American Chemical Industry staged their annual Christmas party, Monday, December 29th at the Hotel McAlpin, New York. Approximately 150 members and guests were on hand to enjoy the evening. The dinner started at 7.30 P. M. After dinner a floor show was staged which ran until midnight. The committee in charge included Grant A. Dorland, Chairman; W. H. Adkins, Givaudan-Delawanna, Inc.; Robert Wilson, Dow Chemical Co.; R. J. Grant, Noil Chemical & Color Works, and H. B. Prior, H. B. Prior & Co.

Newly elected officers of the organization include Fred Koch, Dow Chemical Co., president; Ira Vandewater, R. W. Greeff & & Co., first vice-president; Wm. Adkins, Givaudan-Delawanna, Inc., second vice-president; R. J. Grant, Noil Chemical & Color Works, third vice-president. Grant A. Dorland, MacNair-Dorland Co.; E. J. McGuire, Grasselli Chemical Co., were elected to the Executive Committee for the regular three year term. B. J. Gogarty, American Solvents & Chemical Corp. was re-elected as secretary-treasurer.

Codfish suspended for drying

Iodine in Fish and Oil

RESEARCH work carried out in recent years respecting the relationship between the occurrence of iodine and endemic goitre has proved that there is a deficiency of iodine in those areas in which goitre is prevalent, and attempts are everywhere being made to remedy this deficiency of iodine by administering it in small doses, e. g., by the employment of iodic kitchen salt.

Experiments made by Dr. Lunde and Professor Nicolaysen show in the case of Norway too, the frequency of goitre is in inverse ratio to the quantities of iodine available in foods. But they were further able to prove that those inhabitants of goitre districts who had eaten salt-water fish regularly exhibited a more intensive iodic metabolic process. Lunde and Nicolaysen have therefore urgently recommended the increased employment of salt-water fish, and in this they are supported by a number of other authorities.

Dr. Lunde and Professor Nicolaysen subsequently investigated the iodine value of the most important Norwegian fish species. Their results are contained in the following table:

Average Iodine Content of the Principal Species of Edible Norwegian Fish

	Mg. of Iodine per Kg.	
	Wet	*Dry Substance*
Haddock (Gadus aeglifinus)	6.23	29.34
Cod (Gadus morrhua)	5.17	24.55
Tusk (Brosmius brosme)	3.60	17.85
Ling (Molva molva)	3.11	14.98
Coalfish (Gadus virens)	2.65	13.37
Bass (Sebastes marinus)	1.41	6.60
Halibut (Hippoglossus hippoglossus)	1.19	4.59
Plaice (Pleuronectes platessa)	0.72	3.61
Mackerel (Scomber scombrus)	0.45	1.75
Sea trout (Salmo eriox)	0.37	0.90
Herring (Clupea harengus)	0.17	(0.52)
Salmon (Salmo salar)	0.26	0.50

According to Dr. Lunde's investigations the high percentage of iodine in Norwegian fish must be ascribed to the large content of iodine in the plankton contained in the coastal waters of Norway and on which the fish feeds; and the high iodine percentage in this plankton is derived in turn from the mountain ranges, from where it is washed out in the winter and spring and carried down the rivers to the coast.

As the goitre areas are usually typical inland districts it has been essential to ascertain to what extent also conserved fish products such as stockfish, klipfish, and canned fish products retain their iodine value during the preparation process. As was to be expected,

Fishing harbor; Lofoton, Norway

the quantity of iodine in stockfish and klipfish is somewhat less than in the fresh product (see Table 2). A large part of the iodine is lost also in the process of preparation. In the case of klipfish the finished product retains something like 30 pct. of the original iodine content. In stockfish the percentage lost in preparation is greater, but the quantity of iodine remaining in the finish product is, absolutely, not less than that in klipfish, for the latter product loses large quantities of iodine on being salted.

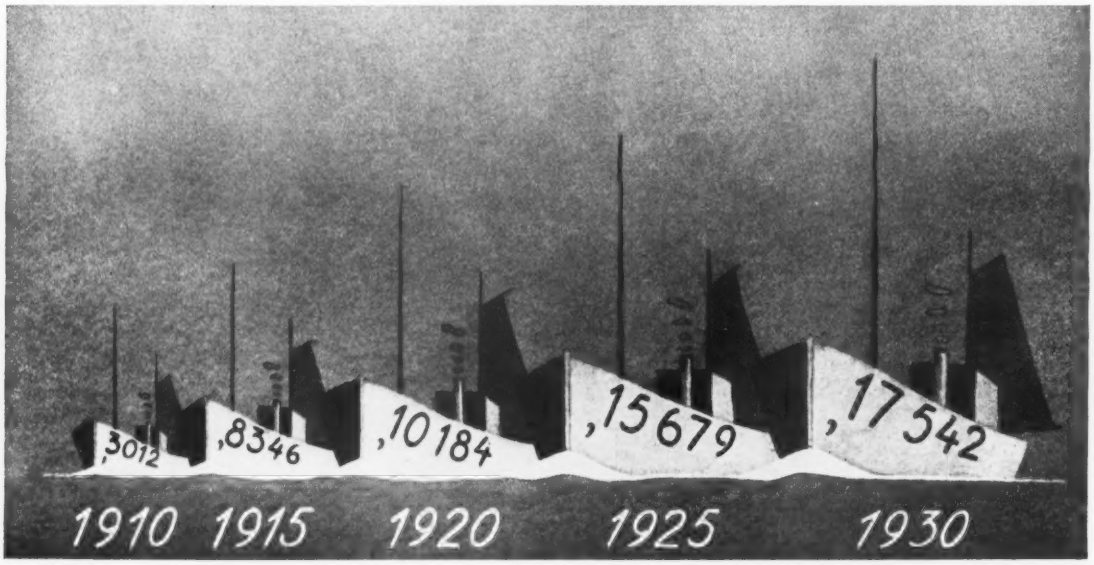
Despite the great loss of iodine the quantities remaining in the prepared fish are nevertheless so substantial that these fish products, too, may be said to be exceptionally rich in iodine and a valuable remedy in the preventive treatment of goitre.

Investigations have also been carried out to determine the percentage of iodine in canned fish, and the presence of large quantities of iodine has been proved.

These investigations have been extended also to cod liver oil (*Oleum jecoris aselli*).

The iodine value of cod liver oil has been known for a long time, and the great therapeutic effect of this oil was formerly attributed to the fact that it contained

(*Continued on page 69*)



Motor vessels in Norwegian fisheries steadily increase

Watching the Trend

Movements of the various leading manufacturers quite definitely indicate the paths which the drug manufacturing industry is following. The major developments of the past year are quite different than those of years which went before.

THE trend of the drug manufacturing houses who are setting the pace in the marketing of medicinal products took quite a definite trend during 1930 and promises to continue along equally definite lines during 1931. Although the year from the point of general business conditions caused the drug manufacturing industry to decline about eight to ten per cent. in total sales, the number of new products placed upon the market by leading manufacturers was probably greater than during many prior years.

And while to the casual observer, it might be thought that drug manufacturers on the whole are merely following in one another's footsteps, the developments of the leading manufacturers are quite unique and very little is simply imitated by them. While it would be ridiculous to believe that there is no direct imitation, the percentage of products put out solely on this basis is exceedingly small, and most of the products represent real advancement. Many of the houses have intensified their development in a specific direction and have more or less specialized in products of a particular type. This has made possible the more thorough knowledge of the production and marketing of their new offerings. Of the new products entering the market during 1930 several groups stand out as having been the subject of more real attraction to manufacturers.

Antiseptics attracted many manufacturers who formerly had no real specialties in this field. While most of these antiseptics are totally different in composition, and while many of them are adapted to antiseptis of different parts of the body, the claims of many of them are broad enough to bring them into competition with several others. In fact, while antiseptics are largely being made for more definite purposes, there are several new and effective antiseptics of reputable manufacturers being promoted for the same major uses.

The increase in vitamin products of many types continued strongly during 1930. Particularly in this field has particular attention been given to concentrates containing both vitamins A and D. The increased potency of viosterol was a move to increase the efficacy of that product, while the intensive research of many manufacturers has at last brought forth several very potent concentrates of cod liver oil that are remarkably stable as to both their A and D content.

Vitamin B has also come in for rather intensive development and marketing efforts, and several new products offering this vitamin in a most palatable form have come on the market. The combination of cod liver oil and vitamin B in a malt vehicle is now available from several sources as a most rich source of the three major vitamins.

The consumer acceptance of vitamins continues to increase as both the physicians and the advertising of manufacturers stress their importance to health. Rather is the public seeking the vitamin product they can most readily assimilate, than debating whether or not vitamins should be taken. And it is this gradual appreciation on the part of the consuming public that vitamins are now truly available in other forms than straight cod liver oil that is causing the increased acceptance of the need of vitamins as well as furnishing the markets for the many new products that are making their bow.

The field of synthetic organic chemicals for medicinal use is occupying the time of many manufacturing houses. Here we find such outstanding products as S. T. 37 which continues to expand in demand in a most remarkable manner. Following this Sharp and Dohme are offering Di-Hydranol—a product of the same chemical series as hexyresorcinol, but for the destruction of putrefactive bacteria in man. This product still has its market ahead of it and practically nothing has been told of just what the destruction of

the putrefactive bacteria will accomplish in the matter of therapeutics. New local antiseptics have increased with amazing rapidity and a particularly large number of such products were offered during 1930.

Toothpastes and shaving creams have brought little that is new during the past year. The market for toothpastes has shifted somewhat as has the market for shaving creams, but the shifting of demand has been from one product of long standing to another of long standing. There have been no newcomers in either field that have shown the ability to take any real part of the market to themselves. There has been an increased tendency toward marketing a shaving cream of the brushless type, but thus these products have made no serious inroads upon the existing market.

Household Remedies Improved

A large part of the effort of the larger manufacturing houses has been spent in developing more readily acceptable household remedies. The work along this line has been carried on in the direction of better and more acceptable packaging as well as in the direction of more pleasant or more easily handled products. Squibb has been very active in this regard, merchandising a new very attractive and palatable phenophthalein wafer under the name of Squibb's Mints, as well as offering a similarly formed and packed Magnesia Wafer. In addition, the Squibb Ephreds struck a new note in inhalants when the popular ephedrine was offered in soft capsules each containing sufficient of the material for one good dose.

The field of distribution has developed little that is new aside from the failure of several of the lesser and localized chain store systems, and the attempt of new localized groups to form what amounts to a voluntary chain with or without manufacturing facilities. The service wholesale group is again a unit with McKesson & Robbins the dominant figure in that group. There now seems little chance of other than harmony occuring in this division of the trade, particularly due to the present economic depression and the unwillingness of any of the houses to anything that might endanger their profits during this period.

Attempts of manufacturers to mutualize their profits with the distributors of their merchandise have shown no new developments. Most of those who undertook such plans during 1929 are carrying them, but we have seen nothing new in this direction.

Profits of manufacturers have been affected somewhat, but the more progressive houses are expected to show very little loss, and in several cases a gain. While the average decline in sales is generally placed at eight to ten per cent. for the drug industry—which in itself is a remarkable showing—several of the houses openly lay claim to increased sales during 1930, which, if true, means that some houses have taken a setback well above the average of eight per cent.

Magnus Heads Trade Group

Percy C. Magnus, president of Magnus, Mabee & Reynard, was elected to the chairmanship for the ensuing year of the drug, chemical and allied trades section of the New York Board of Trade at the fortieth annual meeting of the group at the Drug and Chemical Club, January 7.

Mr. Magnus is a director of several banks and a member of many inportant social organizations. He succeeds Charles A. Prickitt, of the Upjohn Co., who served for two years.

Other officers elected were: Francis J. McDonough, New York Quinine and Chemical Works, who succeeds Mr. Magnus as vice-chairman; S. B. Penick of S. B. Penick & Co., who succeeds himself as treasurer, and Ray C. Schlotterer, re-elected secretary.

Executive committee: Francis J. McDonough, New York Quinine & Chemical Works; Edward Zink, Eli Lilly & Co.; A. Bakst, Bakst Brothers; S. W. Fraser, Burroughs, Wellcome & Co.; Gustave Bayer, Merck & Co.; Harry J. Schnell, "Oil, Paint & Drug Reporter"; C. Leith Speiden, Innis, Speiden & Co.; Charles A. Prickitt, Upjohn Co.

Chairman Prickitt in delivering his annual address on behalf of the executive committee said that much time had been devoted to constructive work for the members of the drug and chemical trade with particular reference to the cost of doing business in order to reduce production and distribution overheads.

The report of the committee on credit presented by Harry A. Cunningham stated that A. Bakst of Bakst Bros. had succeeded in forming a credit committee in the wholesale druggists' group which has been quite successful.

The committee of manufacturing pharmacists, through Elmer H. Hessler, vice-president of G. S. Stoddard & Co., reported that one of the most important problems confronting their business is that of distribution.

The committee on legislation through Dr. Henry C. Lovis, reported that last year was comparatively free from newly-enacted legislation inimical to the interest of the drug, chemical and allied trades.

New members of the Drug & Chemical Section, New York Board of Trade elected at the annual meeting are: Coignet Chemical Company; Commercial Solvents Corp.; Wm. S. Gray & Company; General Dyestuff Corp.; Heine & Company; H. W. Henning & Son; Hydenoil Products, Inc.; Kress & Owen Company; D. Kaltman & Company; Lautier Fils; Mac-Lac-Kasebier Chatfield Corp.; N. V. Potash Export My. of Amsterdam, Holland; Owens Illinois Glass Company; Pharma Chemical Corporation; Reed & Carnrick; Arthur A. Stilwell & Company; Sinclair Refining Co. (G. French); Sinclair Refining Co. (L. P. Lochridge); Schering Corp.; Whitall Tatum Company.

Delay Alcohol Regulations

The new alcohol regulations, numbers 2 and 3, for the enforcement of the prohibition laws, have been further delayed for careful scrutiny before promulgation. Commissioner Doran had hoped to put the new code into force on January 1 but it has now been decided that it is impracticable to print and issue the regulations before February 1. On that date, or very soon thereafter, copies will be issued to Administrators and the regulations will become effective as soon as promulgated.

For the protection of permit holders Commissioner Doran will issue orders to Administrators that no drastic action is to be taken in the enforcement of the new code until copies thereof have been generally distributed. The work of the Alcohol Advisory Council, in co-operation with the Washington representatives of the alcohol using industries, has resulted in the abandonment by the Government of a number of drastic modifications suggested by various officials and it is believed that the new code will involve little or no hardship to legitimate interests although designed to reduce to a minimum opportunities for law violation.

Inside Workings of Drug Control

In answer to rumors regarding the conduct of the Food and Drug Administration with reference to drug trade products, Mr. Campbell tells how the Administration operates and what it will and will not do according to its understanding of its duty.

An interview with Walter G. Campbell

METHODS of the Department of Agriculture in dealing with proprietary medicines as compared with pharmaceutical drugs; the question of advertising control; the relationship of the administration of the food and drug law to the public health and to the agricultural interests and Department of the country; the degree of authority of medical interests in connection with drug control; methods of the department in applying and enforcing the law.

Above are some of the matters discussed in a recent interview of Walter G. Campbell, Director of Regulatory Work under the Department of Agriculture, with Drug Markets.

"There is no discrimination against patent proprietary medicines," declared Mr. Campbell emphatically, in his office in the new administrative center of the Department of Agriculture's building. "We have no desire, nor do we, entertain the view that self medication is forbidden or should not exist. The terms of the law preclude even any implication that the manufacture and sale of patent medicines is prohibited.

"If there is a school of thought holding that production, sale and consumption of patent medicines is contrary to the public welfare, it is a matter in which we have no business. Our jobs is not preventing, but regulating, interstate commerce in proprietary medicinal preparations, among other things. Beyond that our authority does not go.

"Nor is there any favoritism shown to pharmaceutical products or their manufacturers, in the operations of the Food and Drug Administration. Equality of treatment of both classes of products is our aim and purpose."

Mr. Campbell went on to say that "active operations of the Administration in connection with the line of pharmaceuticals is comparatively recent. Extensive development of this work is almost entirely restricted to the administration of the food and drugs law as organized during the last few years. Now it is extensively handled. Pharmaceuticals represent a tremendously big project in the work of the Food and Drug Administration."

"If the law is enforced by a doctor or a chemist he must rely upon a legal man to advise him about the law and its application," said he. "If it is enforced by a lawyer he must depend upon fact finding agencies for information to enable him to proceed correctly.

"I have never advocated legislation for governmental control of general advertising. That does not mean, however, that there are not abuses that

should be corrected. It is possible that some law will ultimately be found necessary to do that. If so, whether it should be in the form of amendment to the food and drugs law, or in entirely separate legislation, will be a matter for Congress to decide."

The Department of Agriculture last spring recommended against the Smoot bill to amend the food and drugs law by including false advertising generally within the definition of misbranding as set forth in the food and drugs law.

Voluntary Corrections

"I prefer to believe that there will be a voluntary effort to correct abuses in the advertising situation," said Mr. Campbell. "The press, daily and trade, periodicals and magazines, should concern itself about false advertisements and should adopt standards that will enable it to censor advertising. The press is daily engaged in moulding public opinion. I feel that there is an obligation imposed upon it, whether trade or daily, to appreciate its opportunity for public service, to the extent that it will be unwilling to carry advertising the curtailment of which is in the interest of the general public.

"A great many publications are doing this voluntarily. I have been gratified at the attitude of some outstanding publications. I prefer to believe that there is sufficient consciousness of the seriousness of this situation, that there will be that attitude of mind on the part of those in control of the press themselves toward some form of voluntary remedy, rather than that dependence be placed upon the state for a law punitive in character.

"This condition certainly ought to be, and will in course of time be corrected. You cannot expect a bad state of affairs to continue indefinitely. Eventually public patience will be exhausted and if the press and industries of the country don't remedy the situation, there will be a demand for action. Congress will be appealed to an you will get a regulatory law that may be drastic in character."

Having sounded this note of warning, Mr. Campbell proceeded to outline briefly his idea of regulating foods and drugs.

"My whole philosophy, with reference to food and drug adulteration, as with false advertising," he said, "would be to emphasize those things that can be done and to prevent the commission of offenses, rather than to mete out punishment for offenses already committed. That is what I have designated as an educational campaign.

"That does not mean that we should relieve offenders from suffering penalties for the commission of crimes, but it does mean that we are disposed to *prevent* the commission of crime.

"This is a law (the food and drugs law) that has no preventive features. It merely calls for the imposition of penalties *after* an offense is committed. But if we wait until afterwards there will have been a certain amount of damage sustained by the public.

Mr. Campbell took occasion to nail reports that in some instances drug products were permitted to bear labeled names not warranted by their contents or ingredients.

"I cannot discuss individual cases," said he. "To do so would involve the business of individual manufacturing concerns. That would be manifestly unfair. Besides, we are not permitted to do it. However, I can say that it is not inconceivable that a question might arise as to what quantity of a certain ingredient a product must contain to permit the name of that ingredient to be used. If there were any such cases arise the endeavor would be made to decide them, having in mind the best interest of the public health, and not with unfairness to the manufacturer, and back of both of these principles, the law itself. As an illustration, and not an actual case, a question might arise as to the quantity of maple syrup that a table preparation composed principally of cane syrup, must contain in order to permit its labeling as a mixture of cane syrup and maple syrup."

Medical Men Supreme

So far as the labeling of drugs is concerned, Mr. Campbell declared emphatically:

"Medical men in the Office of Drug Control have all the control they want. They are supreme in the determination of what constitutes extravagance or misrepresentation that may occur in any statement of therapeutic claim made on a label. Nobody questions their authority."

The above paragraph was by way of comment upon the suggestion that crops up from time to time that medical men should have more authority in administering the food and drugs law, on the ground that it is primarily a matter of the public health.

"What was the intent of Congress?" asked the Director of Regulatory Work. "There are certain measures pertaining to health involved in the law. This was recognized when the Parker bill was considered two or three years ago, authorizing the consolidation of government departmental activities pertaining to the public health, under the Public Health Service. We could not approve such a proposition and the bill failed to become law.

"Certain public health work is in the Department of Agriculture, such as meat inspection, the elimination of cattle diseases, the combating of insect pests, and along other lines. Could it be argued that these matters should be transferred to the Public Health service? Agricultural interest of a very deep sort attaches to the production and distribution of foods and drugs. Hardly a day passes but what it is necessary for officials of the Food and Drug Administration to confer and co-operate with other bureaus of the Department of Agriculture.

"My feeling has been that, through organizations of manufacturers, that where an industry can be induced to utilize the information and facilities we have, to prevent the commission of offenses, that they will have served themselves well and we and they will have rendered a definite service to the public.

"We are willing to discuss the problems of manufacturers of food and drugs, and of other branches of the food and drug industries, in the hope that there can be prevented violations of the food and drugs act. But if there is a disposition not to benefit by our educational approach, we are left with no alternative but to prosecute, and we will announce to the world our purpose to do so wherever an offense is committed. We are intending to enforce the law strictly, but we are not laying speed traps to apprehend travelers."

Research in Department

Mr. Campbell was asked about the question of research work in the Food and Drug Administration. Some experts have claimed that the administration should do more such work; otherwise, they ask, how can it prove that a product is pure or adulterated or misbranded. When the Food and Drug Administration was first organized and research work was largely concentrated in the Bureau of Chemistry and Soils it was thought by some that the latter bureau would do research work for the Food and Drug Administration. But, as it developed, such was not to be the case, save, perhaps, in exceptional cases. There is no drug man in the Bureau of Chemistry and Soils, although full credit is given to Dr. Thom of that bureau for work in connection with botulinus bacillus, a bacteria which rendered poisonous certain batches of canned foods several years ago. It is said that the budget system of government financing prevents such a co-operative research plan to be worked out, as it is necessary to make estimates a year to eighteen months ahead of time, and it is impossible to foresee thus in advance what research work may be necessary in connection with food and drug control.

However, the personnel of the bacteriological laboratory of the Food and Drug Administration is reported to have been increased from three, with which that Administration began, to six, which indicates a disposition to do more research work there. "Why not increase this research work ?" Mr. Campbell was asked. He countered promptly with this question:

"Where has there been a more striking example recently of research work than that conducted in the laboratories of the Food and Drug Administration with regard to fluid extract of ergot ?

"Ergot has been supposed to be a staple and stable product," he continued, "but we found that much of it on the market had deteriorated materially. The result will be a betterment of standards and requirements which will benefit the drug trade, the medical profession and the public."

Attention has been called unofficially, by the way, to the fact that the Society of Gynecologists and Obstetricians recently killed the report of the committee headed by Dr. Ill, which purported to sustain in part charges of Howard W. Ambruster and others that the Department of Agriculture had been derelict in permitting the importation and use of inferior ergot.

"We need a good force of research men," remarked Mr. Campbell, "but we don't want to use them on abstract research work, on projects that merely add to the general sum of human knowledge. The research we are engaged in is of the sort to enable us to acquire facts essential to our work. Specifically, we must prove that a certain article is substandard when shipped in interstate commerce. We must know the circumstances, how and why. That type of applied or acquired research is essential to the administration of a regulatory statute such as ours. We make investigations for procuring facts and taking action. Our laboratories are always engaged in that. Where we can rely upon research of other organizations we don't want to duplicate their work. We must ascertain the fundamental facts and modifying features that we have to study and apply to the circumstances of each case within the scope of our operations."

No Discussion of Differences

Officials of the Department of Agriculture make it a rule not to discuss cases in which differences may arise among themselves, especially where the Secretary of Agriculture may not agree with his bureau heads and other subordinates. In such class there are understood to have been, from time to time, instances where the Secretary has overruled bureau heads. Under such circumstances the bureau heads proceed to carry out the orders and policies of their chief, unless they prefer to resign, which seldom happens. Former Secretary of Agriculture Wilson, in the early days of the food and drug law, is understood to have overruled the late Dr. Harvey W. Wiley as chief of the food and rug law enforcement agency on various occasions.

It has been customary for some bureau chiefs to ask the Secretary for a written decision or instructions when the Secretary overruled them. This for their own protection. When Dr. Carl Alsberg was serving as successor to Dr. Wiley in charge of food and drug law enforcement, he is reported to have made quite a collection of these little souvenirs, which he kept in a safe deposit box. Some of his old friends wonder whether he still keeps this collection with him out in California.

Meanwhile all seems serene on the banks of the Potomac, among officials having to do with food and drug law enforcement.

Drive for Official Drugs

(Continued from page 34)

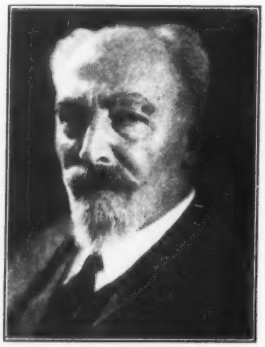
agencies are not creators, they are essentially imitators. A successful specialty of any manufacturer will immediately be imitated by any number of distributing agencies, or bought from imitators by many of them. The retailers will quite often welcome the opportunity to take on an imitation of a successful specialty because of the longer margin of profit.

Additions to the successive issues of the U. S. Pharmacopoeia will be found to consist mainly of newly created products of manufacturers listed under their generic terms. New and Non-Official Remedies are expanded from practically no other source. The average pharmacist as well as the average physician does practically nothing to further the development of medicine from the standpoint of new remedies. The continual advancement in this science is practically all made possible by the efforts of farsighted manufacturers. Even a very large part of the investigations conducted at colleges of pharmacy as well as at the various medical clinics throughout the country are carried on at the behest and at the expense of the manufacturers who are interested in inventing new products and in proving them definitely meritorious before offering them to the medical profession or to the public. Yet in the face of all this, pharmacists—with the aid of physicians—believe that the manufacturers should not be allowed to place these products in the hands of those for whom they were created.

Greed is stated to be the aim of manufacturers in charging the prices they do charge for some of these specialties. There is no thought of the investment in the development of any of these products that must be returned during the first years of the marketing of the product. If the manufacturers do not get back their money before everyone starts imitating him, they will never get it back and they will not be able again to invest in similar developments.

The manufacturers are the only ones who are wholehearted in their determination to advance the science of pharmacy so far as the development of new and improved products is concerned. Naturally this interest on the part of the manufacturers arises from a selfish motive. It is the motive of greater success and self-preservation from inroads by competitors. This is generally termed by those working against the best interests of the manufacturers as a "commercial" motive. But the interests of the pharmacists and the physicians are just as purely commercial when they join hands to prescribe nothing but official products. Furthermore, the commercial motives of the pharmacists and the physicians have nothing to commend them since these professional men are using their influence and ability in a blind attempt to protect or improve their own conditions by retarding progress in their own professions—a progress that the public has the right to demand to be allowed to continue with increased impetus.

IN THE SPOTLIGHT



Theodore Weicker, 1st vice-president of E. R. Squibb & Sons, recently celebrated his 25th anniversary as an executive of the Squibb Company

Jesse L. Hopkins, founder and owner of J. L. Hopkins & Company, recently celebrated his golden wedding anniversary

Percy C. Magnus, president of Magnus, Mabee & Reynard, has been elected chairman of the Drug & Chemical Section of the New York Board of Trade

Russell R. Brown has tendered his resignation as president of the U. S. Industrial Alcohol Company effective April 16. Mr. Brown's successor has not been named

Drugs in Venezuela

(*Continued from page 30*)

unhealthy substances, are considered as exceptions, and may be sold by establishments other than pharmacies, providing such establishments have been authorized to sell them after complying with the requirements of the law regarding permits.

Permission to introduce a drug product into the trade is secured from the Sanidad Nacional—National Sanitary Service—Three original samples of the medicine or preparation have to be sent to the authorities, accompanying the petition. Separate petitions are required for each product, and must be written on government stamped paper. Beside the charge of 10c for the paper, a license fee of 100 bolivars ($19.30) must be paid. Biologic products such as serums, vaccines etc. must also secure permits, but are not subject to a fee.

Pharmaceutical establishments in Venezuela are divided into three classifications: Retail drug stores—*farmacias* or *boticas;* wholesale drug stores—*droguerias;* and pharmaceutical laboratories—*laboratorios farmacepolicos*. Medicines may only be sold in such places, except that the National Sanitary Service is authorized to allow certain general stores to sell medicinal goods, where no pharmacy exists within 5 kilometers.

Venezuela is one of those countries where the market is not sufficiently important to warrant the manufacturer in establishing his own branch office. It is also one of those countries where the local agent if appointed, and if he finds that there is small demand, for the goods, is apt to loose interest and let the agency lie dormant. It is advisable, therefore, to cultivate the business there by periodical visits of traveling salesmen, who visit the larger wholesale drug concerns, the stores handling large quantities, and even the smaller shops in the towns, when time permits. It is possible by careful culture, to build up a considerable direct trade by parcel post, and the manufacturer who does not wish to go to the expense of sending his traveling salesman to Venezuela, may well consider the advisability of a direct by mail campaign, of course in the Spanish language.

Many of the pharmacies in Venezuela, as elsewhere in Latin America, are owned by physicians, or have physicians connected with them, and it is advantageous for the salesmen to get into contact with them when he visits the country to point out to them the importance of his company, and the advantages of using their products.

Containers of smaller size than are usually sold in this country are advisable for this market. Sales are largely to the poorer classes, who cannot afford to buy even a medium sized package, and even amongst the better classes there is seldom a call for large sizes.

Terms of credit to the trade are usually 30 days for American goods, and these seem to be satisfactory, though the European firms, especially Germans, give longer credits sometimes as long as 120 days or even six months.

If an agency is established in the country, Caracas is, without doubt, the most satisfactory place, though some consideration might also be given to Maracaibo, because of its importance to the Western region of the country.

The traveling salesman visiting Venezuela usually lands at La Guaira, proceeds to Caracas and goes from there to Maracaibo, before covering the nearby republic of Columbia.

While the trade of Venezuela is not as important to us as that of Cuba or Mexico—our next door neighbors—or even of the Argentine, or Columbia, still it approximates a million dollars annually, and is constantly growing. We have an excellent standing there, our products are popular and becoming more so year by year, we are annually securing an increasing percentage of the import trade, and with the growing number of Venezuela's young men being educated in our medical colleges, the future of our export trade to that country is satisfactorily encouraging.

There are no difficult import regulations to be overcome, the production of drugs and medicinal products in the country is a negligable quantity, and our increased, and increasing facilities for transportation by sea are of importance and in our favor.

The extension of aeroplane service to South America should not be overlooked. Regular services are now in operation, which gives our manufacturers exceptionally advantageous facilities over our European competitors, especially in the supplying of emergency supplies by fast aeroplane express, or parcel post.

Investigation and cultivation of the Venezuela markets should well replay any manufacturer interested.

Profit Management

(*Continued from page 22*)

The success of the system depends on the melting point of the metal plugs. It must be very low. But as everyone knows all pure metals have a rather high melting point. None of them would ever do alone. Right here, nature has been very helpful. For some strange reason a combination of two or more metals has a lower melting point than any of the pure components. By varying the proportions of the individual metals we obtain a combination that has the lowest possible melting point. Combinations of certain metals have such a low melting point that the heat of our bodies will melt them. Certain others are just right for our sprinkler systems.

Profit management is constantly looking for the melting points of its component parts. It is a very difficult thing to find. Perhaps we will never find it permanently. Quite often when we think we are coming closer to it, someone throws a brand new element into the mixture and then we must start again.

However, if we recognize those new elements and give them their true weight; if we continue to shoot at our new goal—a melting point—nothing will permanently retard the wheels of our progress.

Market Research

(*Continued from page 26*)

thousand. Even now, however, about one-fourth of their list numbers account for 85% of their total volume of business. Breaking it down still further, there are less than 50 individual products, involving about one-fifth of their total list numbers, that represent better than 75% of their business are are responsible for practically all of their gross profit from sales. The U. S. Chamber of Commerce has made similar studies and shown how generally this is true with firms in all lines of business handling a fairly wide line of merchandise.

To what extent do you seek these facts and make use of such information in your sales and promotional activities? Are you concentrating your energies upon the large or potentially large and profitable items? Are your salesmen told specifically which ones are worth while? Is your promotion program built around them?

To what extent do you analyze the goods you sell both as to gross margin of profit and to turnover as well as to comparative selling expense? The gross profit is one factor. Comparative selling expense, the cost of selling one item as against the cost of selling another, is a second. The third—turnover—is equally important. The statistical division of the National Wholesale Druggists Association published some illuminating facts regarding the influence of turnover on the handling, financial, sales and general costs of distribution. On items of relatively small bulk, selling at $10.00, the handling expense (including sales expense) on one turnover per year was 13.12%; two turnovers per year 9.23%; three, 8.33%; six, 6.63%; twelve 5.98%. Above twelve turnovers, the percentage reduction is progressively smaller and proves that fast turnover alone will not necessarily mean profit.

The research end of this involves a critical analysis of your stock of merchandise, item by item, or class by class, as to gross margin of profit, comparative sales expense, and frequency of turnover, to determine which items to push, which to carry for convenience of customers and which to discontinue. It it not necessary, of course, to analyze every one of your many items. Select those whose sales are largest and most important and build your record keeping around them.

This subject is so broad that, of necessity, I have touched upon only a few of the high lights—I believe them to be of major importance. The whole proposition boils down to an axiomatic, wholly obvious conclusion:

First; select; then concentrate upon
Potentially Profitable Markets
Potentially Profitable Prospects
Potentially Profitable Products

But before you can select wisely, you must conduct some form of analysis, or to use our 20th century, fancy word—Research.

S. B. Penick Convention

The annual executive and sales convention of S. B. Penick & Co., New York crude drug house, was held at Hotel Pennsylvania, December 18, 19, and 20. Executives, representatives, heads of departments and branch managers, who were in attendance, completely covered their respective fields, and it was generally agreed that the convention was the most interesting and informative that the organization has held. The prospects and outlook for 1931 in the crude botanical drug trade, based upon an analysis of 1930 business, were thoroughly discussed.

Luncheon was served at the hotel each day of the convention, and on Thursday evening, December 18, a dinner and theatre party was given for those in attendance by S. B. Penick, president of the company, and Mrs. Penick.

Davis Leaves Read Chain

Charles S. Davis, vice-president and managing director of the Read Drug & Chemical Co., Baltimore, is severing his connection with the company. His resignation will become effective shortly after the first of the year. Mr. Davis says that he expects to become associated with a "large national drug company."

Molasses on Exchange

Board of managers of New York Coffee and Sugar Exchange has adopted a resolution, subject to approval by members, amending the by-laws to permit trading in contracts for future delivery of cane blackstrap molasses.

At a vote taken at the general convention of McCormick & Co., Inc., Baltimore, voicing the opinion of one hundred and fifty salesmen from all sections of the country, the general concensus proved that these men believe that business conditions will steadily rise during 1931 on a stronger, more stable basis than ever before.

Most of the reasons were based on the fact that housewives in general are being educated to the value of buying quality products instead of price, a condition that will tend to put business back on a firmer and surer basis.

A series of three sectional conventions have just been completed by the sales forces of Frederick Stearns & Co., meetings having been held successively in Kansas City, Detroit, and New York, under the general supervision of William E. Bomar, sales manager.

Merchandising and advertising programs for 1931 occupied the sessions, which were topped off by banquets and theater parties in each case.

Competition has noticeably increased in Coriander oil with the market subject to shading although no official price changes have been made. The general slack business conditions with very little call for this oil has tended to keep the market weak.

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True quality has but one criterion—results.

Monsanto Glycerophosphates, the first made in America, have given satisfactory results for more than a quarter century.

Choose from the following list of Monsanto Glycerophosphates:

ACID CALCIUM 50%
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ACID GLYCEROPHOSPHORIC 25%
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SODIUM PURE CRYSTALS N. F.
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This is the time for EXTRA SELLING EFFORT

When it's hard to sell goods, the way to sell is to work harder.

Turn up every prospect and you'll turn in more sales.

But be sure that everything is *with* you. Don't let an old-fashioned package, a limping line of goods, or an unattractive odor work *against* you.

Modernize your package; fill out your line with new, popular items; change your odors to the kind people like today.

See how your sales will jump ahead then.

Consider odor as selling cost, not as material cost

The customer's first reaction is to your package. The second and strongest is to the odor of your preparation.

It Sells as it Smells

Remember, too, that it isn't necessarily the highest priced perfume that does the best selling job for you. Just as in packages, it's more a question of striking the popular fancy.

Don't buy a new perfume oil because it costs only $18.00 per pound, while you're now paying $25.00. It may be that you'll do better by paying $36.00, or perhaps $12.00.

The point is that the odor must be well-made, well-balanced, attractive to many people, and, above all, endowed with *that something* that "clicks."

We know the selling angle. We know odors, and have created scores of them. Consult with us and get a new selling aid--*a fine perfume for your line.*

Haebler, Inc.

Want a suggestion? Ask for samples of some of these oils. Those listed are for perfumes, toilet waters, lotions, etc. In most cases we have a corresponding odor for creams and one for powders. *In requesting samples state the character of the preparation you want to perfume.*

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AMBRE C	18.00
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ARBUTUS B	12.00
BERYLIA B	18.00
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BOUQUET 5-A	80.00
BOUQUET 22-A	54.00
CARNATION B	12.00
CHERRY BLOSSOM	18.00
CHYPRE A	95.00
CHYPRE B	54.00
CHYPRE D	20.00
DREAM BOUQUET	22.00
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FLEUROIL D	20.00
FLEUROIL E	10.00
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MAGNOLIA SUPREME	120.00
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NARCISSUS E	8.00
NEW YEAR BOUQUET A	150.00
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OPOPANOL B	28.00
OPOPONAX S.S.	20.00
ORANGE BLOSSOM B	16.00
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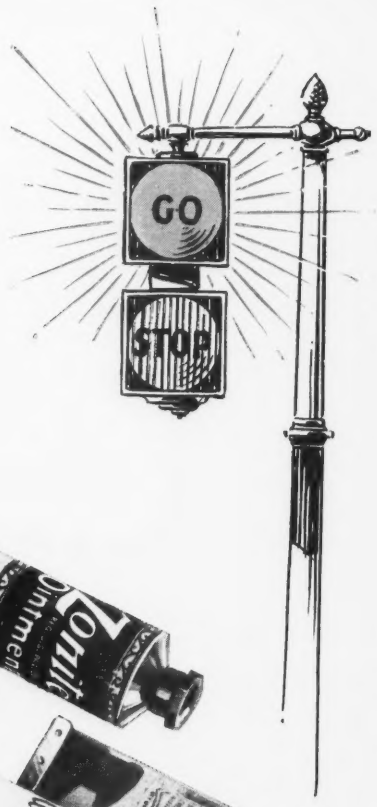
GREEN LIGHT on Distribution Highways— *for products in* WIRZ TUBES



Straight through, without delays, products in WIRZ Tubes reach the buying public . . . Jobbers, wholesalers, and retailers are quick to recognize the marketability of the convenience, the attractiveness and the sturdiness found in WIRZ Collapsible Tubes.

That probably accounts for the increasing number of manufacturers who are using Wirz Service—Design and Manufacture—to help speed up their distribution.

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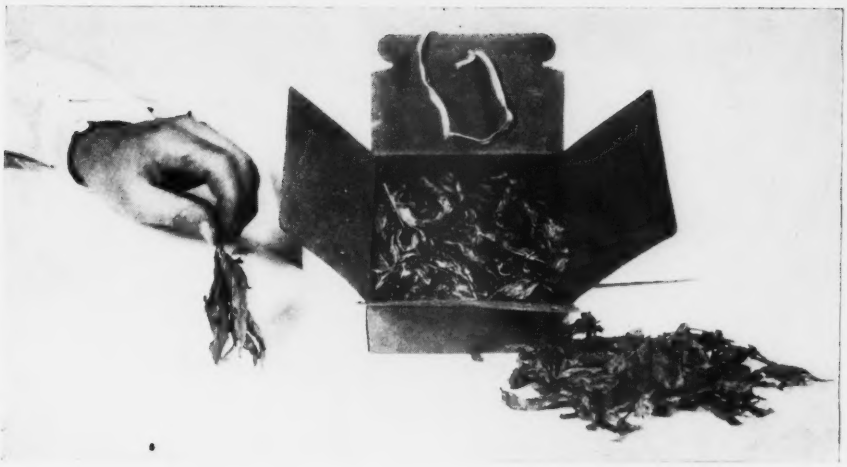

Milly peppermint of this year's yield

Peppermint from France

Production of peppermint forms an important part of the French aromatic plant growing industry. This article written by a special French correspondent, is replete with information regarding the technical and commercial aspects of this culture.

In the drying shed, showing bouquets ready for pressing

THE peppermint, or *Mentha piperita* L., holds a very important place in the commerce affecting both the toilet preparations and pharmaceutical trades, and for this reason the peppermint of France, known for certain qualities, like that of Milly-en-Gatinais, is an interesting culture to study. Apparently, there are districts in France which permit the growing of peppermint that is especially high in quality. This is, no doubt, due to conditions of soil and climate, both of which are highly active in the production of peppermint. France is proud of her plantations of *menthe poivrée*, or peppermint, and it is highly instructive, indeed, to see how this culture is grown, cut, dried and prepared for sale, particularly as concerns the pharmaceutical trade of France and other countries throughout the world.

Several days spent in one of the important peppermint centers like Milly-en-Gatinais, only a short way from Paris, give one a conception of the size of this industry. The accompanying photographs taken for Drug Markets by the writer will serve to give the reader an idea of what the raising of peppermint entails in the way of equipment, such as drying sheds, or *sechoirs*, as well as labor. There is nothing more fascinating than to watch the work of gathering and

A new artificial musk...

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IN the past forty years, numerous nitrogenous bodies have been discovered but, till now, there have been but three of interest in perfumery — these being Musk Ambrette, Musk Ketone and Musk Xylol.

The Technical Research Laboratory of our associates, L. Givaudan & Cie., Geneva, has perfected it, and now we are introducing a new definite chemical body which we designate as MOSKENE.

MOSKENE

. . . *exemplifies the importance* attributed to research development work in the laboratories of L. Givaudan & Cie., where unsurpassed facil*ities for such investigations exist.*

MOSKENE has been protected by *patents in all countries, and the in*stallation of extensive manufacturing facilities makes MOSKENE available *at a very advantageous price.* We invite your comparison of MOSKENE with the older musks. Its tenacity is *an outstanding virtue.*

Light yellow, rhomboid crystals. Melting point 132.5° — 133° Centigrade.

Solubility:

8 grs. per Kg. Alcohol
88 grs. per Kg. Diethyl Phthalate
160 grs. per Kg. Benzyl Benzoate

Soluble in most essential oils.

In odor MOSKENE is between Musk *Ketone and Musk Ambrette. It is* decidedly more reminiscent of the Ambrette seed odor than *Musk Ambrette, and has far greater tenacity.*

GIVAUDAN-DELAWANNA, INC.

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A Sector in Milly-en - Gatinias hung with garlands of Milly peppermint; hyssop and sage drying on the floor

drying during the month of August, and the penetrating odor of the peppermint grown near Milly stays with one for a considerable period of time. Growers like Mr. and Mrs. Thévenin-Mazars take great pride in their peppermint, and they will go out of their way to demonstrate the reason why peppermint grows so wonderfully well in places like Milly.

As has been pointed out from time to time in Drug Markets, Grasse itself used to be a very large mint section, but during the past few years the cultures in that region have almost entirely disappeared. This observation applies, of course, to mints in general, but is mentioned here simply to refresh the mind of the reader with respect to the fact that for the mint in France one must look to other regions at the present time. And in this connection it may be stated that France as a whole seems to be highly favorable to the entire mint family, and one may find almost every type of mint growing somewhere in the soil of the various departments scattered throughout the country.

During the past several seasons there has been a bit of over-production on the peppermint, with the result that certain growers in sections like Milly were left with stocks on hand, a situation that was not present prior to that. As a general rule, practically all of the growers had sold their peppermint before the harvest was in, that is they did this before the general over-production period set in. To-day some of the growers find themselves in the possession of stocks, which are being liquidated gradually.

Weather conditions this year have not been wholly favorable, and this situation has helped some in the matter of cutting down the production, insofar as the total yield is concerned. Drying problems, due to rains, were frequently aggravated, making it extremely difficult for those not well equipped with the proper kinds of drying-sheds to produce for the pharmaceutical trade a product that was satisfactory from every point of view. For the pharmacist and the herborist the drying process involves everything, and unless this can be carried out in accordance with the best practice known to science the peppermint loses much of its commercial value.

Peppermint used in the toilet preparations trade, and from which the essential oil is obtained, may be found in France, England (Mitcham), and America. Japan and Russia, particularly the latter at the present time, also furnish the world market with considerable quantities of peppermint. The Japanese peppermint, this type also being grown in the United States, is known as *Mentha arvensis* D. D. var. *piperascens*, and this species is greatly employed in the extraction of menthol by means of distillation.

As already mentioned, the Grasse type of peppermint is gradually disappearing, which, according to many authorities, is a distinct loss to the trade, as the quality of the peppermint grown in Grasse and the surrounding region has always been regarded as being the highest attainable. Grasse peppermint not so many years ago was the one recommended for use in dentifrices, as well as confectionery products, due to its excellent properties.

Economic conditions in the Grasse district have so changed during the past few years that cultures like the peppermint inspire absolutely no desire on the part of the growers to raise them. Consequently most of the small plantations, once conducted by the small independent growers, have practically become non-existent. Some of the large distilling perfumers, with their own huge properties, have, of course, con-

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tinued to maintain certain plantations under cultivation, but these, generally speaking, are not in any way equal to the possibilities of the Grasse region.

Reports from Grasse are to the effect that business on all essential oils, with the possible exception of the Parisian market, is calm. This calm, which has existed for some time, has, quite naturally, hit cultures like the peppermint also. Furthermore, competition on peppermint from other parts of the world has proved very severe, all of this bringing about a decided lack of interest on the part of the grower in the South of France.

Mitcham mint stands in a category all its own, and is known throughout the world for its excellent quality, both the so-called white and black, the two varieties being cultivated in England very successfully. Climatic conditions, as well as the soil, are, apparently, ideal.

Japanese mint, which differs from the others botanically, is cultivated chiefly in the province of Uzen, Binga, Bitchiu, Bizen, Shinano, Yameto, Yamashiro, Sanuki, Iyo, according to Piesse. The quality of this peppermint is usually conceded to be inferior as compared to the rest of those mentioned, but, because of its low price, has always been considered the best product for the profitable extraction of menthol.

Basse-Alpes department: Entrevaux, Annot, Castellane, La Palud, etc.; *Var* department: Vidauban, Frejus, Caillan, Montauroux, Hyéres; *Vaucluse* department: near the marshes; *Haute-Garonne* department: Montagne-Noire district of the country near Toulouse, where experiments have been carried on for some time for the purpose of creating a French-Mitcham type of mint; *Seine* department: Gennevilliers; *Seine-et-Oise* department: Milly-en-Gatinais; *Oise* department: Ribécourt and the surrounding districts, as well as other sections of this department.

The departments and regions mentioned in the foregoing paragraphs are only a few among those actually raising the peppermint at the present time, especially since the matter of aromatic-medicinal plants and their development in France has been taken up along vigorous and modern lines, in order to meet the competition, or influx, of plants under this category that were formerly raised in many of the other countries of Europe. As pointed out some time ago in Drug Markets, the French government is beind this movement, and since the establishment of a special department in 1918, directly after the armistice, steady progress has been made, until to-day France stands among the first in the production of aromatic-medicinal plants, in addition to the production of perfume-flower plants, for which the Grasse region has been so well known for many years.

The peppermint is successfully grown in soil that is freshly argilo-calcareous, light, mellow, rich in vegetable mould, or humus, and easily irrigated. Too much humidity favors the development of maladies peculiar to the peppermint plant.

Multiplication is practised through division of the young tufts, and the plantations are effected in the springtime, after the soil has been well worked and thoroughly fertilized. The fertilizer recommended in France is that composed of manure, nitrate, superphosphate and sulphate of potash.

In order that the peppermint plant may develop normally, it should be well irrigated, and care should be taken to see that frequent hoeing and weeding are carried out. These latter requirements, if followed, will assure a satisfactory yield, whereas neglect along these lines will only tend to cut down the total of the harvest.

The gathering time is usually accepted as being that period when the plants begin to bloom, and the entire plant is cut. Distillation, to be most successful, is, as a rule, carried out immediately after the plants have been cut down. Unless this is done, a considerable part of the strength is, naturally, lost, resulting in a yield that will not show any diminution, if the distillation is effected at once.

For the herborist trade, the drying of the plants and leaves should be done as rapidly as possible, and in *sechoirs*, drying sheds, that are well ventilated, and in which the peppermint is protected against the rain, or damp. Drying is done either for the purpose of obtaining the leaves, so widely used in the pharmaceutical trade, or the entire plant, which is dried and sold in bouquets.

From the accompanying illustrations, taken for Drug Markets, an excellent idea can be obtained of the extent to which the peppermint growing business in France has been developed, particularly that branch of it destined for the pharmaceutical and herborist trade. A large number of persons are kept busy in connection with the raising of peppermint, and it is held by some of the growers that it is practically impossible to use mechanical appliances successfully for hoeing and weeding, two of the most important operations met with in the growing of peppermint.

Great attention is paid to the drying process on the Thévenin-azars' plantation is Milly, and the drying sheds, or *sechoirs*, have been so constructed that peppermint plants can be dried in any kind of weather. The sheds are all very well ventilated, and the plants to be dried are protected from the rain and humidity. For best results, the peppermint is always kept from being reached by the direct rays of the sun, as they serve to draw out the color of the leaves, a thing that is avoided at all costs, for the reason that colorless leaves do not have the same market value as do those that retain their green. As will be seen from the attached photographs, most of the peppermint is tied together and then suspended in garlands from the rafters or ceiling.

One hundred kilograms of plant freshly cut reduce themselves, after drying, to anywhere between 12 and 15 kilograms. Leaves to be sold as such are carefully sorted before shipped, the sorting, when well done, tending to bring the grower a relatively high price.

Generally, it is held that the peppermint raised for the herborists can be cut before that which is used by

IT IS warmly satisfying to know that the Liquid Absolute Flower Essences we have made in France during the past five years have met with the highest respect of leading factors in our domestic industry. Such a great response proves conclusively that there is a market here for the best.

Our guarantee of quality is backed by 60 years of dependable merchandising--and adds emphasis to the fact that making and selling our own floral essences involves only one profit.

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the distilling perfumer. This opinion is thought of rather doubtful value by many growers, however, who believe that in all cases the plants should be allowed to develop their full amount of strength before cutting, whether to be used by the herborist or the distilling perfumer.

Italy also produces peppermint, although cultures in that country have been gradually disappearing, due to general prevailing conditions. This abandonment comes at about the same time as that existing in the Grasse region.

A rise in prices on the Italian and Grasse qualities of mint was predicted some time ago, due to this very condition, but the move in that direction has been far from that expected for both Italian and Grasse peppermint products.

Peppermint is of great interest to the trade, and in this connection should be mentioned a documented article on the evolution of oil of peppermint in the July issue of Parfums de France, signed with the initials L. S. G. This comparatively brief, but inclusive article gives an idea of just what has been done up to the present time by chemists in the important matter of studying the actual evolution of the oil in the peppermint plants of Russia, America, Japan, England, and Southern France.

According to Rolet, it is the *Mentha piperita* Huds. that is the most sought after by the distilling perfumers, due to the fact that it embodies all of the qualities and properties of other varieties, but being devoid of an odor that is more or less disagreeable.

The actual origin of the peppermint is said to be the Septentrional, Northern, countries or China. That grown in France is what is known as English peppermint, although it must be borne in mind that the French variety has departed somewhat from the actual English species since its cultivation in the various districts of France. There is a distinct resemblance, but sections like Grasse and Milly-en-Gatinais, for example, have succeeded in producing a species which one might very reasonably call wholly French. In fact, growers in Milly have been experimenting for a number of years, in order to develop a peppermint plant particularly suited to the properties of soil in that district, as well the climatic conditions existing there. These experiments have resulted in the building up of plantations that are distinctive as to quality, size, color and strength, the latter, when combined with quality, being highly important to the pharmaceutical trade. One of the accompanying photographs taken for Drug Markets shows a small quantity of this year's crop of Milly peppermint packed for the trade. As will be seen from the photograph, the leaves are of good size and well formed. The strength of this type of peppermint is unusually fine, a quality that is enhanced through the drying methods used. This particular type of peppermint, carefully selected, is in great demand throughout Europe, as well as in France. Apparently, there has been some American call for it also this past year, these calls exceding those of previous seasons.

In France, says Rolet, the peppermint is frequently called green mint, Notre-Dame mint, or garden mint, it being considered by some authorities that peppermint is a cross between the green mint and aquatic, or water, mint. A certain species of mint was originated in Hungary, known as *Mentha piperita* Agneliana, taking its name from J. Agnelli de Csari, this variety reminding one of intermediary forms of *Mentha aquatica*, *Mentha viridis*, and Mentha *verticillata*.

The peppermint plant takes its name, of course, from its taste and odor. It is a comparatively small plant with white or violaceous flowers and belongs to the family of labiates.

Many of the more commonly used varieties of peppermint have reddish flowers, which bloom from July to September, and they are generally eared or spiked.

The peppermint is a hardy plant, grows its subterranean parts in tufts, sending off a considerable quantity of stolons, or shoots, horizontally from the plant, both under the ground and above. Leaves are a dull green on top, and the roots are fibrous, long and running.

It has an odor peculiar to itself, strong and penetrating, at the same agreeable, piquant, peppery. When chewed, the peppermint leaves a characteristic sensation of freshness, which the confectioners in the United States have incorporated in some of their products for a number of years, with so much success.

There are two varieties, namely the black (red) and white mint. The black is known as *Mentha piperita officinalis* var *rubescens* Camus, and on the whole this plant is darker in color than other varieties, with stalks and leaves more or less purplish, that is faintly so. Flowers are a dark violet.

This black variety is the most cultivated one of the two, hardier, more productive, and less subject to rust. Furthermore, it is held to give a higher yield of oil per acre, as applied to the ordinary quality demanded in the toilet preparations trade. Whether cultivated in England, in the United States, in France, or particularly in the region near Grasse, it is usually designated by the name of Mitcham mint.

Mint coming from the province of Turin, in Italy, is, as a rule, called red mint, because of its apparent reddish color.

White mint is known as *Mentha piperita officinalis* var. *pallescens* Camus. The stalks are green, with little red color. The leaves are green, less dentate, and the flowers are eared or spiked, less dark in color. Yield per acre is said to be under that of the black with respect to oil, but the quality is held to be superior to the black. Essential oil taken from the white variety of peppermint is regarded as being richer in esters, although not so rich in menthol. White species is cultivated in England at Mitcham and one or two other places. Its resistance to climatic changes is not

particularly developed. In the Grasse region the white variety is called French mint, or menthe *du pays*, which, literally, means mint of the country, region, or district.

In the *Alpes-Maritimes* department of Southern France, where Grasse is located, the sections that used to raise the most peppermint are: Villeneuve-Loubet, Cagnes, Pégomas, along the shores of the Loup, the Cagnes, and the Siagne. Naturally, the growers of Grasse and the immediate surroundings did a very great deal years ago for this culture, now conspicuous by its absence in that section.

English or Mitcham oil of peppermint is obtained by distillation from the *Mentha piperita* L. It is a colorless, or slightly greenish yellow, liquid. Density: 0.900 to 0.910. Solubility: 1 volume of oil in 2 to 4 volumes of 70 degrees alcohol. Amount of menthol varies between 52 and 66 per cent. According to Fouquet it is estimated that the so-called Mitcham mint sales each year exceed anywhere from 50 to 100 times the production. In other words, one may understand from this that adulteration and substitution are extensively practised.

French peppermint oil is obtained by distillation from the *Mentha piperita* L., and is also a colorless, or slightly greenish yellow, liquid. Density: 0.908 to 0.925. Solubility: 1 volume of oil in 2 to 4 volumes of 70 degree alcohol. Amount of menthol varies between 45 to 68 per cent.

Japanese oil of peppermint is obtained by distillation from the *Mentha arvensis*, DC., and is a light, or slightly yellow liquid. Density: 0.890 to 0.900. Solubility: 1 volume of oil in 2-½ to 3 volumes of 70 degree alcohol. This oil is usually imported into France, according to Fouquet, dementholized.

F. T. C. Attacks Inecto

Hearings in connection with the charge by the Federal Trade Commission that Inecto, Inc., New York, misrepresented its product, a hair-dye, were held in Pittsburgh, December 15; in Cleveland, December 16; and in Cincinnati, December 19.

The commission charges that the respondent's hair-dye is harmful, unsafe, and toxic. Through its witnesses, the commission has sought to show that application of Inecto hair-dye so affects the scalp as to necessitate medical treatment. At the Cincinnati hearing, a claim adjuster for a casualty insurance company testified that his company had made settlements with two women in behalf of Inecto, Inc. A chemist witness testified that extensive experiments had led him to the conclusion that no coal-tar dye could be made safe for application to the scalp.

John W. Boyer, who resigned November 1, 1930 as vice-president of Monsanto Chemical Works, is now associated with Calco Chemical Company, subsidiary of American Cyanamid Company manufacturing organic chemical medicinals and dyes. Mr. Boyer will be located at the head office of the company at Bound Brook, New Jersey.

P. R. Dreyer, president and guiding spirit of P. R. Dreyer, Inc. left, accompanied by Mrs. Dreyer, January 8, for a three weeks trip to the West Indies.

Industry's Books

Debunking Science, by E. T. Bell. University of Washington Book Store, Seattle, Washington, 40 pages, 65 cents net.

An essay by a scientist advocating an investigation into exactly how much we can safely trust in science, in which he uses the science of mathematics to show how even the experts disagree.

Stocks and their Market-Places, by Montgomery Rollins, 271 pages, Financial Publishing Co., Boston.

A pocket-size handbook giving terms, customs and usages used in stocks and stock-marketing. The fifth edition of this work, revised for 1930 by Charles H. Gushee.

Our Altruistic Individualism, by Charles Elton Blanchard, Medical Success Press, Youngstown, Ohio, 251 pages, $3.00 net.

An interesting exposition of the psychology of our social system with an attempt to arrive at a better understanding of the real meaning of human conduct.

Pioneers of Public Health, by M. E. M. Walker. The MacMillan Company, New York, 270 pages, $4.50 net.

Sketches of the lives and works of twenty-one eminent scientists, pioneers in Medical Science and benefactors of the human race.

Psychology in Modern Business, by Harry Walker Hepner, 728 pages, Prentic-Hall, Inc., New York, $5.00 net.

An attempt to make usable for the business man the discoveries and views of modern psychologists. Gives a better realization of the opportunities and sound methods of analyzing and influencing employees, customers, associates and oneself.

Business Letters and their Use, by Henry A. Burd and Charles J. Miller, 485 pages, McGraw-Hill Book Co., Inc., New York.

A complete and comprehensive guide to the latest accepted methods of writing and using letters for every business need.

Books on Advertising, Business English, Marketing, Retailing, Salesmanship, and Sales Management, Compiled by H. E. Agnew and F. H. M. Anderson, 20 pages, National Association of Teachers of Marketing and Advertising, New York. $1.00 net.

A useful list of over 500 books on the subjects indicated by the title, with author, publisher, and date of publication.

Who's Who in Advertising 1931, by John L. Rogers, Harper & Bros., New York, 284 pages, $7.50 net.

Thumbnail sketches of 5,000 advertising men, gathered from questionnaires voluntarily filled out and returned to the compiler.

Mortality in Retail Trade, by Edmund D. McGarry, University of Buffalo Bureau of Business and Social Research, 198 pages, $3.00 net.

A statistical analysis of entrances into and exits from the retail grocery, drug, hardware and shoe trades in Buffalo over the period 1918-1928.

Twentieth Century Health Science, by John X. Loughran, 217 pages, World Health League, New York, $3.00 net.

Modern thinking on physical health and well-being with chief emphasis placed upon proper nutrition.

The Socialization of Medicine, by E. M. Phelps, 190 pages, The H. W. Wilson Co., New York.

A debate on Resolved: That state medicine should be established, consisting of a brief, bibliography, and a symposium of articles and extracts from articles upholding both sides of this question.

New Patents Reveal--

UNITED STATES PATENTS

Derivatives of Quinoline

Condensation products of phenylcinchoninic acid and carbamic acid are made by reacting phenylcinchoninic acid halide upon an ester of carbamic acid at a high temperature which yields phenylcinchoninic acid urethane as small yellowish-white crystals nearly insoluble in water, but soluble in all important organic solvents, in warm state, with exception of petroleum ether. It is also soluble in dilute mineral acids, and is characterized by melting point of 172° to 173° C. R. Wolffenstein, Berlin-Dahlem, Germany. U. S. P. No. 1,773,837, filed January 10, 1929.

Inactive Menthol

Inactive menthanol is made by mentholates of earth alkaline metals reacting with isomers of inactive menthol 100° C. for 10 to 40 hours. K. Schoellkopf. Duesseldorf-Oberkassel and A. Serini, Duesseldorf-Heerdt, Germany, assignors, Rheinische Kampfer-Fabrik G. m. b. H., Duesseldorf-Oberkassel, Germany. U. S. P. No. 1,773,500, filed June 29, 1927.

Tube Cap

A cap for a tube consists of a body with a transversely arranged chamber and outlet and inlet openings communicating with the chamber. A valve is rotatably arranged in chamber and has an opening therein leaving a solid portion acting to close outlet opening when valve is in a certain position. A head on outer end of valve is located at one side of cap and a finger is connected with part of periphery of head whereby valve can be actuated by finger of hand holding tube. R. M. Witt, New York. U. S. P. No. 1,772,379, filed May 6, 1929.

Ethyl Esters

Ethyl esters are prepared by di-ethyl sulphate reacting with a sodium salt of an organic acid in presence of solvent substantially free from water. A. R. Cade, Pittsburgh, assignor, Carbide & Carbon Chemicals Corp. U. S. P. No. 1,781,050, filed July 7, 1923.

Clip For Collapsible Tubes

Clip is used for clamping sides of flat end of collapsible tube. It consists of strip of metal in U-shape forming a pair of jaws to embrace flat end of tube. Jaws have a number of alternating, elongated, staggered, indentations extending longitudinally of clip. These indentations are for engaging metal of tube and preventing lateral and longitudinal movement of clip. G. W. Duncan, Bloomfield, N. J., assignor, Weimann Bros. Manufacturing Co., Derby, Conn. U. S. P. No. 1,781,448, filed August 24, 1929.

BRITISH PATENTS

Bismuth Salts of Organic Arsonic Acids

Alkali insoluble basic bismuth salts of organic arsonic acids are obtained by reacting in alkali salts of the acids with solution of bismuth salt other than bismuthyl-potassium-sodium tartrate, reactants being used in equimolecular proportions. Acids specified are 3-acetylamino-4-hydroxybenzene-1-arsonic acid, 3:4-benzene - 4-N-methyl)—imidazolone-arsonic acid and formaldehyde bisulphite compound of 3-amino-4-hydroxybenzene-1-arsonic acid. Bismuth nitrate is used in example. I. G. Farbenindustrie A. G., Frankfurt-am-Main, Germany. B. P. No. 334,449, filed November 14, 1929.

Bromomenthane

Monobrominated menthane is prepared by treatment of menthane with bromine in presence of iodine as catalyst. Schering-Kahlbaum A. G., Berlin, Germany. B. P. No. 334,474, filed December 24, 1929.

Caffeine

Caffeine is prepared from theobromine or its salts using methyl chloride as methylating agent. When theobromine itself is treated, a basic substance is added to neutralize liberated hydrochloric acid. Methylation may be carried out in solution—water or methanol—and also at an elevated temperature and pressure. Monsanto Chemical Works, St. Louis. B. P. No. 334,741, filed October 7, 1929.

Cascara Extracts

Disagreeable flavor of an aqueous extract of cascara segrada is eliminated by treatment of extract with oxygen, preferably produced by addition of a solution of hydrogen peroxide and charcoal, at 100° F. After charcoal is removed by filtration, glycerin and licorice may be added. A. Robertson and J. Taylor Ltd., Glasgow, Scotland. B. P. No. 335,115, filed November 25, 1929.

Hormones

Hormones or active substances present in posterior lobe of hypophysis are extracted and separated into those acting on uterus and those increasing blood pressure. Fresh or dried gland is extracted with methanol or other alcohol containing hydrochloric acid, sulphuric acid or other inorganic acid. Extract is precipitated either by neutralizing the acid by means of methanol containing ammonia or by addition of ether or other organic precipitant. Precipitate is dissolved in acidified alcohol and solution is precipitated fractionally with acetone and ether, the first fractions containing more of substances acting on blood pressure. Filtrates containing substances acting on uterus are concentrated while feebly acid, shaken with water to form two layers, and hormone is obtained by distilling alcohol from aqueous layer and precipitating with petroleum ether. Alternatively original extract may be precipitated first with acetone and then with ether. I. G. Farbenindustrie A. G., Frankfort-on-Main, Germany. B. P. No. 334,898, filed June 11, 1929.

Heart Stimulants

Heart stimulating substances are extracted from muscular tissue by means of water-soluble organic solvents. Lipoids are removed by treating tissue before extraction, or by treating extract with water-insoluble solvent. Aqueous extract remaining after expelling the water-soluble solvent is saponified with caustic soda, barium hydroxide or like to destroy substances affecting intestine or uterus and, after saponifying agent has been removed, and if desired after removal of by-products of saponification by further treatment with a water-insoluble organic solvent, may be sterilized by heating or mixed with preservative.

In an alternative process aqueous extract after saponification is evaporated to dryness and freed from ballast substances by extraction with methanol of high strength. Dried muscles may be employed but in this case water is added before or during extraction with water-soluble solvent. Tissues may be treated at natural hydrogen-ion concentration or after addition of alkali. Active substances are soluble in water-soluble organic solvents containing at least 10% water but not in highly concentrated solvents. Soluble solvents specified are methanol and ethyl alcohol, acetone; insoluble solvents are ether and methylene chloride. I. G. Farbenindustrie A. G., Frankfurt-am-Main, Germany. B. P. No. 335,202, filed June 10, 1929.

Antirachitic Preparations

Substances having intense antirachitic effect are obtained by separating unconverted ergosterol from product obtained by irradiation of ergosterol, by means of crystallization from organic solvents, in which ergosterol is slightly soluble, for example alcohol, acetone and ethyl acetate. Separation is continued until soluble residue in alcoholic solution shows a dextro rotatory power greater than 25° for yellow line of mercury. Active product is obtained by distillation of solvent, or it may be taken up in non-volatile liquid such as vegetable oil. Irradiation is preferably carried out in solution in a hot organic liquid, for example ethyl alcohol at 75° C., and in an inert gas used to agitate solution by bubbling. When solid ergosterol is treated, antirachitic product may be extracted from unconverted residue by an organic solvent. Irradiation is preferably effected with light having few or no rays below 2750 Angstroems and is stopped preferably before maximum production of antirachitic vitamin has been reached. Societe des Usines Chimiques Rhone-Poulenc, Paris, France. B. P. No. 335,277, filed June 25, 1929.

Glycidic Acids

Glycidic acids are obtained by oxidiation of alpha-beta-unsaturated aldehydes. Process is carried out in alkaline medium and is accomplished by means of hypo-halides or by means of hydrogen peroxide. Thus for example cinnamic aldehyde is added with stirring to alkaline solution of sodium hypobromite Crystals of sodium salt of phenyl-alycidic acid are separated out. In another example a solution of annamic aldehyde in alcohol is mixed with hydrogen peroxide and alkali. Sodium salt of phenyl glycidic acid is also obtained in this manner. In a third example crotonic aldehyde is added to an alkaline solution of sodium hypobromite and solution is neutralized with a mineral acid. Methyl glycidic acid is separated with aid of ether. A. A. Kaufmann, Geneva, Switzerland. B. P. No. 335,391, filed October 8, 1929.

GERMAN PATENTS

Acid Tooth Pastes with Collidal Ingredients

These pastes collidal substances, having an absorbent action on film covering teeth. Thus a collidal protein, such as beta-glutin, is used in admixture with polishing agent made of inorganic colloids or acid salts. Salts of organic acids, for example potassium tartrate is used as an acid-reacting ingredient.

When dried aluminum oxide or titanic acid is used, even when these substances are subjected to dry colloidal grinding, results are not so good as those obtained by using these substances in form of strongly hydrated hydroxides with addition of organic acids, such tartaric acid. In manufacture of these pastes, operation is carried out in following manner. Organic acids, for example tartaric acid and hygeroscopic substances, such as glycerin, are added to hydroxides, such as aluminum hydroxide or titanium hydroxides, and water is evaporated. By addition of suitable organic colloid, for example an albumen, lathering or foaming characteristic of paste can be secured. Other substances may be used in addition to beta-glutin, these being cellulose products. However beta-glutin is particularly well suited for it can be prepared in simple fashion by boiling gelatine.

The following is an example: One part gelatine is cooked with 5 parts water and approximately 0.03 part citric acid, and after about 6 to 7 hours is converted into non-coagulating beta glutin. Approximately 3 parts glycerin are added and water evaporated. This mass is then worked up into a paste with following ingredients: 100 g. beta-glutin mass, 0.04 g. gum tragacanth, 50 g. silica gel (12% SiO_2), 150 g. potassium bitartrate, 0.7 g. essential oil. This mixture attains the required uniformity and fineness through colloidal grinding, whereby consistency of mass may also be regulated. Aktieselskabet SiKo, Oslo, Norway. G. P. No. 503,626, filed April 7, 1926.

4-Oxy-3-Acetylaminobenzene-1-Arsinic Acids

These pharmaceutical products are made by reduction of 1 nitor-3-acetamino-4-oxybenzene or its derivatives and conversion of resulting new amino compounds into arsinic acids. Leopold Cassella & Co., G. m. b. H., Frankfurt-am-Main, Germany. G. P. No. 487,420, filed May 29, 1925.

N-Aralkylated Aromatic Amines

Secondary amines of aromatic series are used in place of primary amines. These secondary amines are condensed with omega-halogenmethyl derivatives of aromatic oxy-compounds at ordinary temperature. I. G. Farbenindustrie A. G., Frankfurt-am-Main, Germany. G. P. No. 494,803, filed September 9, 1926.

Amino-Aryl Mercaptans

This process is concerned with the manufacture of ortho-amino-aryl mercaptans which are substituted in the para-position as compared with the amino group. Thus 2-aminoaryl-thiazoles are heated with alkali lyes in the absence or presence of organic solvents or diluents. I. G. Farbenindustrie A. G., Frankfurt-am-Main, Germany. G. P. No. 495,102, filed July 10, 1927.

Camphene

Process is concerned with manufacture of camphene from pinene hydrochloride or pinene hydrobromide. These starting materials are heated with finely divided cuprous oxide. It is also possible to use in place of cuprous oxide a finely divided mixture of cuprous oxide and copper. Either all or part of cuprous oxide may be replaced by this mixture. M. Allinger, Nancy, France, G. P. No. 495,449, filed February 20, 1924.

Water Soluble Sterin Compounds

These compounds are formed by action of di-carboxylic acids or their anhydrides on sterines, with exception of cholesterin. Mono-ester acids are thus prepared, and these esters are then converted into the water-soluble salts. F. Hoffmann La Roche & Co. A. G., Basel, Switzerland. G. P. No. 495,450, filed June 30, 1927.

Salts of Cinchona Alkaloids

These salts are made with aromatic arsinic acids. Either free cinchona alkaloids are treated in aqueous solution with 3-acetylamino-4-oxybenzol-1-arsinic acid or salts of cinchona alkaloids are treated with water soluble metallic salts of aforementioned arsinic acid. Les Etablissements Poulenc Freres, Paris, France. G. P. No. 495,256, filed March 19, 1926.

Organic Mercury Derivatives

Organic mercury derivatives are obtained by the mercurization of aldehyde or ketone condensation products. The starting materials used in the process are condensation products of amino compounds, hydrazin, or derivatives of these materials with substituted, mixed fatty-cyclic carbonyl compounds. These products contain salt-forming groups. Dr. A. Albert, Muenchen, Germany. G. P. No. 487,726, filed January 13, 1923.

The Literature Says:-

Symmetrical Bromo-Iodo-Ethylene

In the action of acetylene on a mixture of bromine and iodine in a hydrochloric acid solution, there are formed 2.8% chloro-bromoethylene, 4.7% dibromoethylene, 27.3% chloro-iodo-ethylene, 38.8% bromoiodo-ethylene and 11% di-iodo-ethylene. These figures refer to products isolated by distillation in presence of butanol.

During direct distillation, heat decomposes a part of ethylene compounds and yields are less. Formation of chloro-bromo-ethylene is attributed to small quantities of chlorine contained in commercial bromine. Formation of chloro-iodo-ethylene is explained by presence of iodine chloride during reaction and yield of this ethylene compound excludes possibility of attributing formation to impurities in bromine. Solution of iodine in hydrochloric acid in presence of an oxidizing agent is not a simple solution, iodine chloride being formed. H. van de Walle and V de Landsberg, Bulletin Societe Chimique Belgique, 1930, pages 309-328.

Water in Digitalis Tincture

Potassium iodoplombate $KPbI_32H_2O$ is used as reagent. It is prepared as follows: In a solution of15 g. potassium iodide in 15 cc. water, a solution of 4 g. lead nitrate in 15 cc. water is poured. Yellow lead iodide separates at once. After a few minutes, yellow color disappears and almost colorless needles of double salt appear. Crystals are filtered with suction pump, pressed between leaves of filter paper and dried over sulphuric acid in vacuum. Product is kept in bottles sealed with paraffin, as humidity of air soon decomposes it.

An amount of the reagent held on point of knife, is placed in test tube with ground glass stopper. Approximately 5 cc. of tincture to be tested, are immediately added and stopper is replaced. In presence of traces of water, lead iodide powder becomes yellow either immediately or after a few seconds. Lead iodide is formed. Test is very sensitive. J. Haugg, Apotheker Zeitung, 1930, pages 1,099.

Dragoid

A new pharmaceutical preparation of German origin with following composition. Extract coloc. co. gr. 1, extract japapae gr. 0.500, podophyll. gr. 0.25. leptandr. gr. 0.5, extract hyosc. gr. 0.25, extract tarac. gr. 0.25, oleum menth. pip. q. s. sacch. q. s. gr. Weight of tablets without coating is 230 mg. They possess odor of jalap and aloes but odor of peppermint is not detected. Presence of aloes and jalap root ingredients were detected. Emodine reaction was negative. Yellow color, characteristic of tablets, may be due to scammony, which is constituent of extract of colocynth and of podophyllum. Meded. v. h. Rijs Instit. v. Pharmaco-therap. Onderz, 1930, page 464.

Eupaverine

Chemical name is 1-(3:4)-methylenedioxyhenzyl-3-methyl-6:7-methylene dioxy-isoquinoline. It is used as hydrochloride. It comes as white or slightly yellow needles, difficultly soluble in cold water, but more easily soluble in very hot water, and soluble in sixty parts alcohol. Commercial preparation has been found to be sulphate of base.

Properties are very much like those of papaverin. It is not, however, identical with latter nor derived from it. In general it is necessary to use only about three quarters of regular dose of papaverin of this preparation to obtain same results. Eupaverin is moreover much less toxic than papaverin. Pharm. Zeitung, 1930, 1,062.

Oxidation of Nopinene by Permanganate

Presence of nopinene has been detected in American and French oils of turpentine. This has been done by studying the products obtained by oxidation of the oils with the aid of potassium permanagate. This oxidation leads to formation of nopinic acid, characterized by almost complete insolubility of its sodium salt. There is about 20% of nopinene present in oil of turpentine obtained from maritime pine. Oxidation of nopinene with potassium permanganate gives only a very small yield of nopinic acid.

Direction oxidation of starting material with 50% solution of potassium permanganate without addition of acid gave yield of 7 to 8%. A satisfactory yield was obtained in an alkaline medium. A solution, containing 632 g. potassium permanganate, 112 g. caustic potash and 9 l. water, was heated. While temperature is decreasing to 25° C., 272 g. of nopinene are added and mixture is vigorously agitated. Oxidation is complete within five hours. Judicious addition of ice prevents temperature from rising above 30° C. Mass is filtered by suction and then filtrate is concentrated to 3 l. in vacuum and 140 g. sodium sulphate are added. Sodium nopinate crystallizes abundantly and a yield of 57% nopinene is obtained, which amounts to 36.3% of theoretical. G. Dupont, Bulletin de l'Institut du Pin, Number 65, page 269

Face Cosmetics

Raw materials used in preparation of these cosmetics are salicylic acid, beta-naphthol, resorcinol, sulphur, soft soaps and the like mixed with zinc, oxide, vaseline, lanolin, mucin, alcohol, carbon tetrachloride, talc, camphor, soda, potash and the like in various proportions.

Various combinations are given, one consisting of a tar-sulfur soap, 50 g. cosmetic salicylic acid and alcohol and a special paste, used in proportion of 25 parts. The salicylic-alcohol mixture consists of 3 g. salicylic acid dissolved in 125 g. alcohol, and mixed with 100 g. spir. vini gallic, 25 g. alcoholic soap and 300 g. glycerin. The special paste is made from 5 g. precipitated sulfur, 5 g. beta-naphthol, 5 g. zinc oxide, 0.1 g. camphor, 0.1 g. menthol, 10 g. sapo kalinus ven., 10 g. anhydrous lanolin, 100 g. vaseline. Naphthol, camphor and menthol are triturated in a mortar and pestle; then zinc oxide is added to pounded mass and lanolin, soap and vaseline are added in successive portions until a paste is formed.

The soap (tar soap), salicylic acid composition and special paste composition are used separately. The skin is first washed with the soap, then the salicylic acid solution is applied. This is done in the morning. The paste is applied at night. Excellent results are claimed for this treatment. Der Parfuemeur, 1930, number 48, year 1930, page 844.

Soap on Poisonous Quality of Alkaloids

A study has been made of poisonous qualities of fatty acid salts of the alkaloids. It was found that 2½ mg. strychnine sulphate, when injected subcutaneously into guinea pigs, will kill, while injection of suspension of 15 mg. strychnine palmitate in

Above—the National Midget Labeler in the plant of the Boyer Chemical Company, Chicago, Illinois.

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2 cc. water did not harm. Reduction of poisonous qualities of alkaloids depends upon solubility of soap and upon basicity of alkaloid. Aconitine nitrate does not give a precipitate with fatty acid salts in any case and therefore retains its complete toxicity. Reduction in toxicity is dependant upon conversion of substance from state of true solution to colloidal solution. In latter form alkaloid is not so much absorbed by system. Comptes rendues, volume 189, page 1,325.

Cinnamic Acid and Esters

As the carbon chains in the compounds increase or when the cinnamic acid is combined with aromatic alcohols, the odor becomes weaker. It also becomes more balsamic in character but at the same time the odor is more lasting and fixed. Some of the cinnamic esters, for example the phenol ester, that is phenyl cinnamate, possess therapeutic properties.

Quite a number of the cinnamates are described. Cinnamic acid itself possesses valuable bactericidal properties. Methyl cinnamate possesses strong fixative porperties and is used in making various perfume preparations, such as eau de cologne, lavender oil, rose oil, cherry blossom oil, etc. The odor of ethyl cinnamate is much different from that of the methyl compound, being sweeter and stronger. It also finds many interesting uses. Many other cinnamates are described. A. Mueller, Der Parfuemeur, 1930, page 859ff.

Black Cosmetic Coloring Matter

Liquid kohl for use in blacking eyebrows and like purposes may be prepared by suspending amorphous carbon in either a mixture of glycerin and water, mucilage of gum acacia or mucilage of gum tragacanth, with addition of a little perfume. Mucilage of gum tragacanth is best suited for purpose. About 0.4 per cent of chloroform may be added as a preservative. Lampblack mixed with soft paraffin, with or without the addition of beeswax, may be used to give a paste kohl. A formula follows: 56 parts yellow vaseline, four parts beeswax and forty parts lampblack. Stick form may be made by mixing equal portions of cocoa butter and ceresin with one quarter of their combined weight of lampblack. This gives a rather hard product, while a softer product may be obtained by mixing 57 parts cocoa butter, 20 parts ceresin, three parts beeswax and 20 parts lampblack. H. S. Redgrove, Soap Trade and Perfumery Review, 1930, page 124.

Cocaine Substitutes

Introduction of benzoic ether group or azotized radical permits attainment of anaesthetic properties in many cases. There are, however, exception to this rule. On other hand there are many other substances enjoying same properties, without its having been possible up to present to show slightest connection in chemical constitution and physiological action. H. Goldstein, Bull. Soc. Chim. Belgique, 1930, pages 197-205.

New Color Reaction of Ephedrine

Up to now two color reactions obtained with cupric sulphate for ephedrine have been described. New reaction, if not quite specific to ephedra alkaloids, seems, nevertheless, to be limited by color produced to this alkaloid and its immediately higher homologues. The reaction is carried out as follows:

To solution of hydrogen peroxide, free from sodium chlor de, 4% sodium chloride is added. Four cc. solution are placed in test-tube and a few mg. of the substance (aminoalcohol of the ephedrine group) are added; when test is made with salt of base, mixture is rendered alkaline with six drops of decinormal solution of sodium hydroxide. Tube is placed in boiling bath, and liquid, after minute heating, colors red. Tube is removed and allowed to cool. While cooling, color deepens and becomes reddish violet. This color persists for several hours; it disappears when alkali is added.

If hydrogen peroxide, without sodium chloride, is caused to act on it, one molecule is destroyed and odor of benzaldehyde is recognized.

Same colors are not obtained in testing ephedrine and pseudo-ephedrine. Ephedrine and its higher homologues give an intense reddish violet color, while pseudo-forms yield a yellowish orange tint, so that even if reaction is not quite negative, it is at least much less intensely manifested, as if the two radicals necessary for its production are not found in pseudo-isomers in their usual forms. J. Sivadjian, Journal Pharm. et Chimie. 1930, II, pages 266-269.

Classification of Cocoa Butter

Freezing point or solidification is determined on a sample which weighs 75 g., or in modified test a smaller sample of 10 g. may be used. These samples are placed in a boiling tube maintained at not over 65° C. When fat has been completely melted, tube is placed in cold water. Mass in tube is stirred until temperature falls to 40° C. Tube is wiped and cork which carries a special thermometer and stirring rod is fitted into tube. Fat is stirred again until temperature reaches 33 C., when tube is placed in insulated jar, neck plugged with cotton wool. Stirring stops when temperature reaches 31 C., when first reading is taken. These readings follow at one minute intervals. Fat is stirred for one minute after first visible separation of crystals, and then three times during each half minute, procedure being continued for 10 minutes after maximum temperature is reached.

Values for maximum and minimum temperatures, difference between them and time taken from 31° C. to maximum when plotted give for each kind of fat a typical curve. Cocoa butters with high maximum temperatures generally show high acid values. Tables of typical figures are given for cocoa butters, verberine, kayao, Pintianak illipe, and various "butters." The more divergent the cooling curve of a fat from that of a cocoa butter, the less suitable was the fat is for application for various purposes, also the greater its similarity, the more satisfactory was the substitute. A. G. Avent. Analyst 1930, volume 55, pages 477-487.

Making Benzyl Benzoate

Condensation of ethyl acetate to give acetyl acetate in presence of sodium ethylate is sufficiently well known. Use of sodium ethylate for condensation of esters constitutes a process of general application. The action of benzaldehyde on sodium benzoate permits preparation of benzyl benzylate with almost perfect yield. This explained by formation of an addition compound of unstable character between aldehyde and sodium derivative. This compound then decomposes into benzyl benzoate and sodium benzylate is recovered.

Benzyl benzoate is prepared industrially by this process, but the heat of reaction, for the process is exothermic, makes it difficult to obtain a pure product. The most favorable conditions for the manufacture of a pure product, particularly suited for therapeutic purposes have been established. This is as follows:

Three grams of sodium are dissolved in 70 g. benzyl alcohol by heating half an hour. It is allowed to cool down to room temperature and 454 g. freshly rectified benzaldehyde are gradually added with constant agitation. The benzaldehyde should contain less than 1% benzoic acid. Mass tends to heat and must be cooled down to 50° to 60° C. Temperature remains constant at end of half an hour. Mass is then heated on water bath for one or two hours. About 200 cc. water are added; mass is washed with water and distilled in vacuum. Portion which passes over between 184° and 185° C. under 15 mm. pressure is benzyl benzoate and is obtained 99% pure. Yield is 92 to 93% of theory.

When temperature of reaction rises too high, then a secondary reaction takes place and benzyl ether-oxide is formed. The latter has a boiling point very close to benzyl benzoate and hence it is very difficult to separate the two. Every precaution should therefore be taken to avoid overheating in process and this is why it is preferable to add benzylate to aldehyde. R. Toussaint, Revue de Chimie Industrielle, 1930, 227-8.

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Tablet Making Machines
Vacuum Pans and Dryers
Molds of all Types
Powder Fillers
Drying Closets
High Vacuum Pumps
Percolators
Capsule Fillers
Oscillating Granulators
Coating and Polishing Pans
Water Stills
Drug Mills and Mixers
Alcohol Recovery Apparatus
Tube and Jar Fillers
Jacketed Kettles
Bottle Washers
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Special Machinery

WRITE FOR INFORMATION

Just check, on the above list, the items in which you are interested, and mail the list to us.

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Pharmaceutical Machinery since 1895

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New York Office: 103 Park Avenue

Electrical Inspection of Drugs and Toiletries

By Francis Chilson

Almost uncanny in its ability to perform all sorts of inspection and rejection operations ordinarily performed by human beings, the photo-electric cell is finding application in the packaging of drug and toiletries, an application that may shortly be widespread.

IN THE past five years the photo-electric cell has established itself as an important control device in manufacturing and packaging operations as well as in many other forms of industrial procedure. Since applications of the cell have already been made in the drug industry, it seems fitting that at this time the nature, operation and uses of the cell should be described.

Having heard of the photo-electric cell mainly in connection with the operation of electrical robots and in the manufacture of talking motion pictures, we are inclined to think of photo-electric research as being of comparatively recent origin. Actually, such research had its inception in 1887 when Hertz discovered that a spark passing between terminals of different potentials was facilitated by the presence of the ultra violet ray. In 1888 a second and probably more important discovery was made by Hallwachs who found that certain metals have a negative charge on their surface which is lost in the presence of ultra-violet light. After the turn of the century German scientists named Elester and Geitel discovered that certain alkali metals

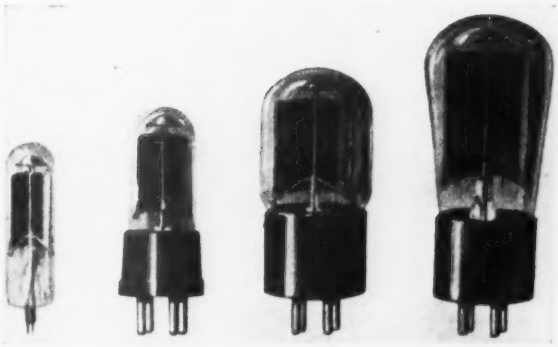


Figure 1

are light sensitive. With these discoveries and the invention of the vacuum tube in the first decade of the present century, the basic principles of the photo-electric cell were rounded out. Researches in the next fifteen years resulted in the modern photo-electric cell, which no longer is dependent upon the ultra-violet ray but will respond to light waves of any length.

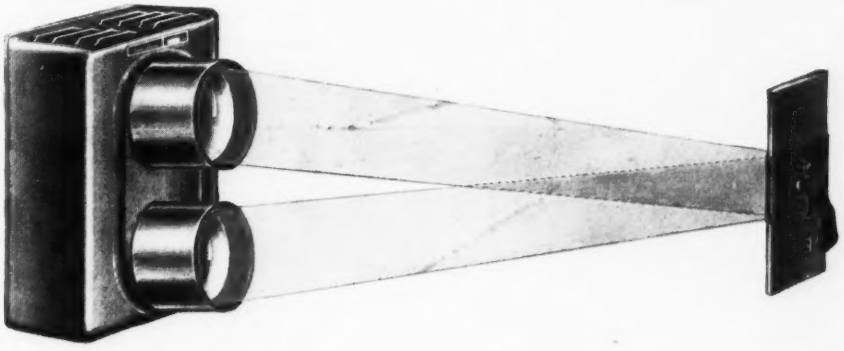
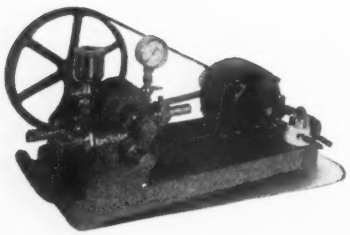


Figure 3

Inexpensive Bottling Equipment For Low-Cost Work

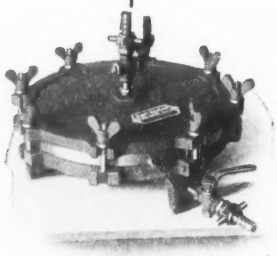


Rotary Pump

For emptying barrels; pumping from one tank to another; for filtering; for a dozen jobs you will find for it every day to save hours of labor. All bronze; frictionless; noiseless. Easily moved about. Always ready for use.

Vacuum Filler

A practical well-made, inexpensive filling equipment. Bottles your products rapidly, neatly, accurately. Quickly cleaned for different products. Handles variety of bottles. We make vacuum filling machines of all types and sizes.



Monopad Filter

For perfumes, extracts, etc. Quick, thorough filtration. Ready for use in a minute. Easily cleaned. Air-tight. No evaporation. No leakage. Get our catalog showing complete line of filters.

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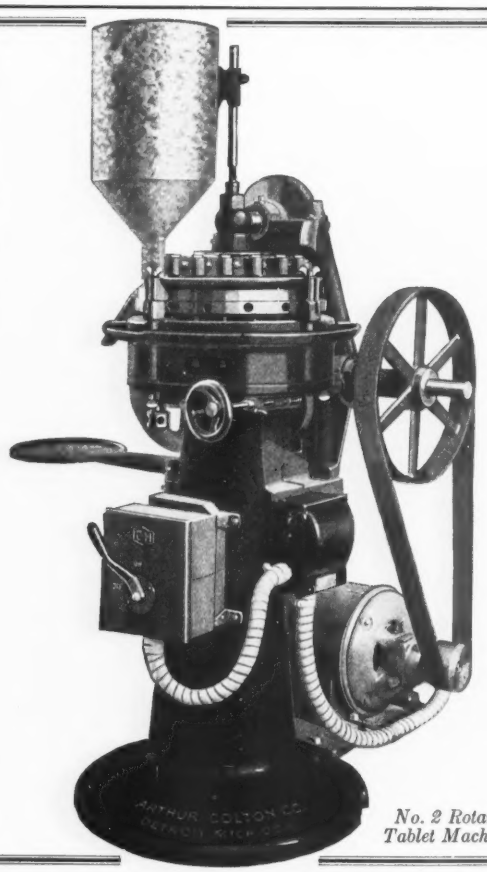
Cincinnati, Ohio



No. 2 Rotary Tablet Machine

New and Improved!

We have no yearly models—but improvements and refinements are being constantly added to Colton machines.

There are over five hundred Colton Rotaries in use.

Superior design, sturdy construction and ease in operation have made this possible.

The No. 2 Rotary Tablet Machine has such desirable features as *positive pressure*, eliminating varying thicknesses of tablets; *hardened steel gear drive*, eliminating frequent replacement of worms used on other makes, and *sliding upper punch holders*, to hold the punches rigidly, enabling the manufacture of special shaped tablets most satisfactorily.

Write for Catalogs.

ARTHUR COLTON COMPANY
2620 East Jefferson Ave.
Detroit, Michigan

The photo-electric cell is made in various sizes and resembles somewhat a radio tube. (See Fig. 1). In the interior of the tube are mounted: a curved metal plate coated with a light sensitive material, usually sodium, which forms the cathode; and also a small copper wire which forms the anode. When a beam of light of a pre-determined intensity strikes the light sensitive surface of the cathode it emits electrons which are collected by the anode, passed to an amplifying tube and thence through a magnetic relay. (See Fig. 2).

Metals having this light sensitivity or photo-electric effect are: sodium, potassium, rubidium, caesium, lithium, barium, and selenium—of which, sodium, the cheapest and most sensitive of all is generally employed.

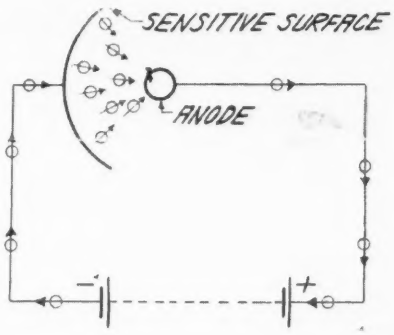


Figure 2

There are four forms of photo-electric cells; the liquid cell, the selenium cell, the vacuum cell, and the gas cell. The first two are not considered to be true photo-electric cells and are rarely used for control purposes. Nor is the vacuum cell generally used excepting in the research laboratory, for the reason that it is very much less sensitive than the gas cell although more constant. When constancy is of more importance than sensitivity the vacuum cell is employed;—for all other purposes the gas cell is used. Hence, this paper from now on will be concerned with the gas filled cell.

Such cells are filled with an inert gas—usually nitrogen—at low pressure. This gas, ionized by the passage of the electrons from cathode to anode, increases the total photo-electric current, thereby increasing the sensitivity of the cell enormously and making possible the operation of delicate electrical instruments such as galvanometers, and microammeters without amplification.

Photo-electric cells range in sensitivity from that of the human eye to many times the power of the eye. They are so sensitive, indeed, that they will detect a change in the density of the air caused by the presence of foreign gasses, and have been used for this purpose in the Holland tunnel where they control the great suction fans located at either end. This sensitivity may be regulated by merely turning a set screw; and in this way is the cell adjusted for different kinds of work.

Contrary to general impression the photo-electric cell itself does no mechanical work; it acts merely as a transformer of light, energy into electrical energy. A complete hook-up requires, therefore, an exciting light, the photo-electric cell, an amplifying tube and a relay.

The exciting light may be mounted in either of two ways: in the same housing which contains the cell, amplifier and relay; or, as a separate unit mounted at a distance from the cell and operated from an independent battery. In the first set-up a mirror is required to reflect the light beam back into the photo-electric cell.

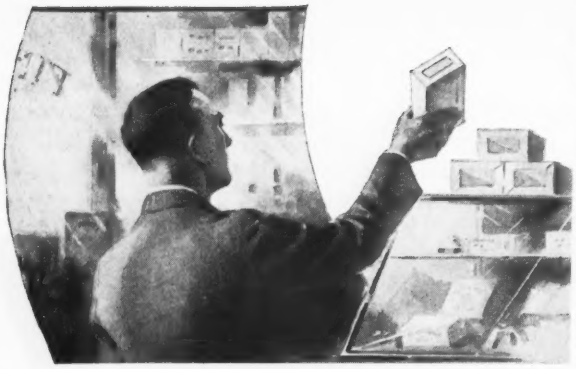
The second set-up requires a small light and a reflector or a lens; the light being generally an auto headlight bulb of ten to twenty-five candle power. This light is mounted at from two to forty feet, depending upon the nature of the work to be done, and its beam is trained directly on the photo-electric cell. By either of these methods a direct beam of light is provided between the exciting source and the cell, any interference with which will cause the relay to function as described below.

To repeat then: when the light strikes the light sensitive surface of the cathode it emits electrons which are collected by the anode, owing to the polarizing action of the battery in the external circuit. This photo-electric current is stepped up by the amplifier

Figure 4

and passed through the de-energized relay and on through the external circuit. When the beam of light is intercepted, the relay becomes energized, its contacts close and the current from the power circuit is passed through to the control device, whether it be a counter, a sorter or a power switch. As long as the beam of light remains unbroken so long will the machine under control continue to operate.

The relay housing is usually mounted directly on the machine but when space is not available the housing is mounted on an adjacent wall, and the photo-electric cell, protected by a hood and attached to a long cable, is mounted on the machine.



The dealer picks his cast for that daily drama . . .

"Display makes Sales"

In every retail store there are certain high spots for display. A few shelves have the best chance for attention from the customer's eye—one counter case is more desirable than another—merchandise will move quickly in a particular part of the store and slowly in another.

The wide-awake dealer is careful to use these natural points of display to the best advantage. The result is that only the *more attractive looking items, with real sales appeal*, get these choice locations.

Where does *your* product rate with the dealer ? Is it so attractive that he gives it the spotlight regularly, or is he likely to shunt it to the back of the shelves with the "just-so-so" looking packages ?

You need *new* customers to increase sales volume. And there is no more effective way of winning new buyers than *effectively packaged goods prominently displayed at the point of sale.*

Package Improvements

If you seek improvements in appearance, a new way to wrap your product, or lower production costs—consult us.

PACKAGE MACHINERY COMPANY

Springfield, Massachusetts

New York Chicago Los Angeles

London: Baker Perkins, Ltd.

Photo-electric control devices are used in the packaging industries to stop wrapping machinery when the paper breaks. For this type of control the cell and the exciting light are set up so that the beam passes beneath the paper in such a way that a torn end or an unusual sag will intercept the beam and so operate the relay and stop the machine. Cartoning machines can be equipped similarly to stop the machine when an improperly scored carton jams in the magazine.

In the plant of the H. J. Heinz Company an interesting application of the cell has been made to control a spot labelling device. As the bottles pass into the labelling machines all which are not properly aligned are turned. The Fleishmann Company uses a cell controlled sorter to segregate all yeast cakes which comes from the labelling machine without labels. The sorter deflects the cakes as they pass along a conveyor. They pass to a given point and are there collected and returned to the labellers. The Bristol Myers Company is reported to be using a photo-electric cell device for the detection of improperly closed and clipped tubes on an automatic tube machine filling at the rate of 150 tubes per minute. Since the cells will respond to 1,200 interruptions per minute their efficacy for inspection of the output of high speed machines can easily be seen.

The number of applications which might be made in the drug and cosmetic industries is almost unlimited. A capping machine could be controlled in such a way that it would be stopped if a container is not properly aligned in the star wheel. Solid color caps which have become chipped or scratched could be segregated before the containers reach the labelling machines. Compact boxes might be sorted automatically, classifying those which are off color, scratched, dented, chipped, and all those with badly washed in lettering, broken and defective mirrors. However, in every case where work is inspected for more than one defect, a cell callibrated for each particular job is required. One cell callibrated for a given thing will not respond to other things.

In the field of color selection the cells find their widest application. Concerns using colored cream jars can be saved considerable expense by sorting off color jars beforehand. With the unaided eye, only jars badly off color can be detected, the others do not show up badly until filled with cream. One of the large houses in the trade recently experienced considerable difficulty with this very problem. Using a colored jar with cap to match, they had difficulty not only in culling out off colored jars but in finding caps that would match as well. With a photo-electric cell controlled sorter there would have been no problem.

Color matching in the manufacture of face powders, rouges and lipsticks is another field to which the cell could be profitably applied. In many laboratories cells are already being used for the measurement of turbidity, suspensions, and for the control of constant temperature baths. Adulteration of materials can be detected with the cell even though the specific gravity

of the material is not altered, so long as the color or opacity changes slightly. It is possible that some day the cell will be applied to the detection of adulteration of essential oils.

Steam valves on melting and mixing kettles can be controlled by the cell, when it is hooked up in a manner that will cause the light beam to be intercepted by the rising or falling of the mercury in a thermometer.

It would be impossible to touch on all phases of the industry where the cell could be used to advantage. But having touched on some of them it is well also to indicate some of the limitations of the present day cell.

Since the sensitivity of the cell increases as the voltage is increased, a point is reached when the ionization within the cell becomes self-sustaining, and will continue to emit a glow after the withdrawal of the beam. This condition ruins the cell and must be carefully avoided. The voltage of the external circuit, the candle power of the exciting light and its distance from the cell are factors determining the life of the cell and must be carefully established beforehand. All cells vary considerably as they get older, accordingly they must be callibrated with a master sample at least once a month.

The cost of cell outfits is not very great, ranging from seventy-five dollars upward. This includes cells, amplifier and relay. The life of the cell depends entirely upon the care given to the little details of set up. The voltage of the feed lines should be as low as will produce the desired results. In general the life of the cell itself is upward of 1,000 operating hours.

The photo-electric cell may be regarded as an infallible inspector and can be used for almost any purpose that requires the attention of an operator or an inspector. Unlike the human eye its responses are not governed by fatigue or changes in lighting; it never goes color blind, and its "judgment" of the work set out for it to do is fixed, unprejudiced and invariable.

New Tablet Packaging Machine

The Ivers-Lee Co., Newark, N. J., originators of the sanitape method of packing tablets, have just introduced a universal tablet counting and packaging machine, which has many unique features.

Tablets and pills of practically any size or shape, whether coated or uncoated, can be counted and placed in almost any type of container by the same machine. Only minor adjustments are necessary to change from one type of product to another, a wrench and a screw driver being all that is necessary to make the change.

The operation of the machine is remarkable in that the tablets are poured into the containers in a stream. This prevents jamming in small neck bottles and in the case of slide boxes it is not necessary to take the cover off as the container can be filled merely by sliding the box partially open. The machine is built with a foot lever control so that the operator has the free use of both hands. The machine can be made completely automatic for those having a large output and thus be hooked up and timed with a labeling machine or other packaging machinery that may be installed in the plant.

AN ADHESIVE FOR EVERY MACHINE OR HAND OPERATION

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Our representatives are adhesive specialists. They can talk to you in your own language. It is their job to make specific recommendations with a view to solving your adhesive problems.

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ADHESIVES

A perfected adhesive for every standard or special operation:

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May we send a representative to analyze your requirements?

NATIONAL ADHESIVES CORPORATION

Executive Offices: NEW YORK

WORLD'S LARGEST PRODUCER OF ADHESIVES

LIGHTNIN PORTABLE MIXERS

FOR MIXING LIQUIDS in ANY SIZE TANK

Direct Drive Model M LIGHTNIN

MODERNIZE your tank equipment without new tank expense! LIGHTNIN portable mixers are specially designed for every mixing need and are easily attached to any tank in your factory.

Built in all sizes and speeds, Lightnin mixers may be conveniently moved from tank to tank, or installed in any closed tank with special sanitary support fitting. Write for details.

ALL SIZES AND SPEEDS

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Originators and Largest Manufacturers of Portable Electric Mixers

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Factory: 1060 Garson Ave. Rochester, New York

"FILMASEAL"

Trade Mark Reg. Patents Pending

Airtight . . .
Leakproof . .
Tamperproof .

A transparent film sealed to top of container
Plus our continuous thread screw cap
Film must be removed to reach contents
Used with standard C. T. bottles and jars
Automatic application . . . no decrease in output
Adapted to large scale production
One of our films will serve your purpose

FERDINAND GUTMANN & CO.
Bush Terminal No. 19 · Brooklyn, N. Y.

SANISEAL METAL MILK CAPS . . . DISTILLED WATER CAPS
CROWN CORKS
CONTINUOUS THREAD CAPS . . . SPECIAL PURPOSE CAPS

Closure Specialists Since 1890

Extra $191,108 for Food & Drug Act

An increase of $191,108 in funds for endorsing the food and drugs act is included in the Department of Agriculture appropriations bill for the next fiscal year, which has been passed by the House.

Dr. P. B. Dunbar, assistant chief of the Food and Drug Administration, told the House Appropriations Committee during the preparation of the bill that, except for salary increases affecting all government employees, the funds for enforcement are very little greater than they were in 1914, although since that date the food and drug traffic has increased 40 per cent. in volume and 100 per cent. in value. He also pointed out that new types of food and drug products have been developed as the result of modern discoveries in nutrition and therapeutics, presenting problems of enforcement not dreamed of fifteen years ago. Most of the increase is for the purpose of inspection.

Corrective Attitude Necessary

Judge O. B. Dickinson, in the United States District Court at Philadelphia has dismissed a libel under the food and drugs act against a shipment of bottled Capon Springs water. The court's opinion held that the govermnent's charges that the water was mishandled and contained substances deleterious to health had not been supported by the evidence.

The judge also declared that it was the intent of the law and the regulations to safeguard a business against an unwarranted inference, based on a remediable condition of a single shipment of a product, that that product itself always was unwholesome or otherwise at variance with the law. He held that the government erred in not granting a preliminary hearing with a view to correcting the faults alleged to exist in the seized lot.

Sharp Manager Aluminum Seal

Aluminum Seal Company, Pittsburgh, has elected John E. Sharp vice-president and general manager in charge of sales and production. Sales contacts and service facilities will continue to be maintained through offices of the Aluminum Company of America in various cities.

Mr. Sharp has been connected with the glass packing industry since 1912, first being associated with Owens Bottle Company as designing engineer. He entered the Aluminum Seal Company in 1915 as factory superintendent. One of the many innovations developed under his guidance has been a machine that automatically applies a threaded finish to an aluminum seal in the process of capping.

The Perkin Medal, awarded annually to the American chemist who has most distinguished himself by his services to applied chemistry, goes this year to Dr. Arthur D. Little of Cambridge, Mass. The medal will be presented at a joint meeting of the Society of Chemical Industry, the American Chemical Society, the Societe de Chimie Industrielle, and the American Electrochemical Society at 8.30 P. M. on January 9, in Havemeyer Hall, Columbia University.

S. Picker, advertising manager of The Crystal Chemical Co., Inc., New York, reports a 40 per cent. increase in business during 1930 over last year. Consumer advertising on Outdoor Girl, a face powder, is being doubled both in magazines and in local newspapers.

Dr. Edmund John Quinn, formerly instructor of chemistry at Columbia University, has been appointed director of the biological division of the laboratories of The Maltine Co., Brooklyn.

For Coughs and Colds

(*Continued from page 20*)

labeled claims with reference to the cure of whooping cough. For this reason also, a blanket claim for treatment or cure of all coughs is not allowable.

If there are exceptions to this rule and other rules outlined above, there is no official statement obtainable concerning the same. There has been criticism of the Department for permitting use of the name "Pertussin" on a certain preparation represented for coughs. Critics have said that the very name means "whooping cough," and that it should not be allowed, as it may imply that the preparation is a cure for whooping cough.

Department officials decline to discuss this particular case, under their general rule that individual products and manufacturers can not be discussed for publication unless and until the courts have passed upon them.

Iodine in Fish and Oil

(*Continued from page 40*)

iodine long before there was any conception of the connection between a deficiency of iodine and endemic goitre. At all events cod liver oil is of prime importance in ordinary goitre prophylaxis, apart from its valuable properties consequential upon its content of A and D vitamins. A tablespoonful of cod liver oil contains sufficient iodine to meet daily requirements.

As regards powdered cod and herring, their iodine value proves to be similar to that of fresh fish of the same kind; powdered herring which is rich in fat contains a higher percentage of iodine than a product poor in fat.

The employment of such cattle meal with a high percentage of iodine is, however, doubly important, for it does not only give an increased iodizing of the animal products (and at the same time an increased iodizing of the manure and thereby of the whole district), but it also acts as a direct preventive against goitre in domestic animals. It is a well-known fact that goitre occurs in domestic animals, particularly in horned cattle and swine, and has repeatedly been described from Norwegian goitre districts.

Iodine Content in Mg. per Kg. of Dry Substance

	Fresh Fish	*Stock Fish*	*Klip Fish*
Cod	22.20	16.6	6.8
Haddock	34.17	30.6	
Coalfish	13.37	4.8	

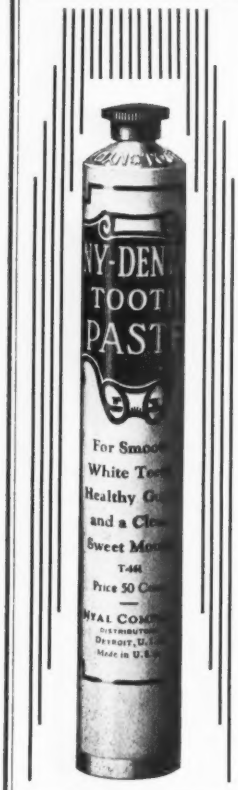
Average Percentage of Iodine in Norwegian Canned Fish

	Mg. of Iodine per Kg. Wet	*Dry Substance*
Bristling in oil	1.20	2.78
Bristling in tomato	0.31	0.94
Kippered Herrings	1.02	2.76
Fish Balls	1.06	6.60

Cod Liver Oil

	Percentage of Iodine in Mg. per Kg.
Non-Freezing	15.2
Crude Medicinal	14.2
Pale Medicinal	9.9
Light Brown Medicinal	4.5

COLLAPSIBLE TUBES
ART
TUBE
COMPANY
IRVINGTON, N. J.
1931
1930 was our best year . . by far . . and you can bet . . we're all set . . to make 1931 even better . . if reliable tubes . . and right prices . . can do it.
SPRINKLER TOPS



A *Decided Improvement* for the Tube You Are Now Marketing . . . .

OUR Research Department has developed a *new coating ink* which makes Bond tubes especially suitable for shaving creams and tooth pastes.

The new coating has these advantages:

1—High resistance to alkali.
2—Freedom from cracking even after long periods of time.
3—Retention of adhesion and gloss.
4—Retention of color of coating ink.

The most strongly alkaline cream may be rubbed on our coating ink without affecting it. To protect the printing on tubes it is necessary to cover it with a finish, and for that purpose we recommend our new nitro cellulose lacquer.

BOND MANUFACTURING CORPORATION

WILMINGTON, DEL.

New York Office: L. H. Brodrick, 475 Fifth Ave. (Fifth Ave. at 41st St.) Phone: CAledonia 5-4867
J. L. Matthieu, 239 Chalmers Ave., Detroit, Mich.

Producers of 126 different materials have come to Stokes & Smith for help in their package problems—and found the solution to their difficulties. This wealth of experience is at your disposal—without obligation. Write us today.

STOKES & SMITH CO.

Package Filling, Sealing and Weighing Machines
Tight-Wrapping Machines, Envelope Sealers

4912 Summerdale Ave., Philadelphia, U. S. A.

Silver Label **Gold Label**

GELATINE

Pure Food and Technical

COIGNET GELATINES
17 State Street, New York City

WOULD YOU PICK UP A THOUSAND DOLLAR BILL?

Just watch the scramble!

Yet there are many thousand dollar bills laying about the average plant which are not seen because they are invested in obsolete methods, inadequate equipment, high costs and low inventory turn-over.
And these dollars are invisible because:—

First; Routine work takes up so much of the average executive's time, that he is able to devote but little of it to consistent cost reduction . . .
Second; Because a broad unbiased perspective is impossible to executives very close to operations . . .
Third; The short cuts to reduced operating costs are best known to men whose sole business it is to cut costs . . .

You have the sad news before you now in the form of your 1930 profit and loss statement. Undoubtedly you have made a resolution that now is the time to make certain that your 1931 statement will not tell the same sad tale.
A conference on your problems or upon a specific problem will involve no obligation for consulting work.

FRANCIS CHILSON

Consulting Production Engineer

101 West 31st St., New York, N. Y.

Simpkins Mallinckrodt Sales Manager

Harold W. Simpkins, treasurer of the Mallinckrodt Chemical Works, St. Louis, has been appointed general sales manager, effective January 1. For many years Mr. Simpkins has been associated in management of sales and advertising.

Mr. Simpkins has been with Mallinckrodt for about fourteen years. He was born in St. Louis, August 16, 1885, and received a degree of B. S. from Harvard University in 1912. Before going with Mallinckrodt he was branch manager for Hydraulic Press Brick Co. at DuBois, Pa.

Announcement of the appointment of Mr. Simpkins was made at the annual meeting of salesmen, held in St. Louis, December 18 to 20. The meeting closed with a banquet at which 156 employees were present. It was announced that of the 156 men attending the dinner, the average length of service per man was about eighteen years. The highest length of service was 62 years for one man, 40 years or more for eight men, and so on down.

The New York Mallinckrodt branch was represented by A. A. Wassercheid, manager; W. D. Barry, assistant manager; A. M. Hopper, and W. J. Deas.

Corn Sugar Restrictions Are Removed

Elimination of the requirement that canned foods containing corn sugar be labeled so as to show that they contain that type of sugar was announced Dec. 26 by the Secretary of Agriculture, Arthur M. Hyde. The requirement has been included in departmental regulations under the Food and Drugs Act.

It has been estimated, Mr. Hyde said, that 5,000,000 to 100,000,000 additional bushels of corn will be used annually in making corn sugar as a result of the change in the regulations.

The action of the Secretary applies to all products containing sugars, and corn sugar may now be used in any food without declaration on the label. This ruling involved no change in the Federal Food and Drugs Act, nor does it change the rules with reference to labeling of harmful or injurious ingredients. Labeling of such ingredients is still required. The fundamental motive behind the change, Mr. Hyde stated, is to provide a new use for farm products.

Norwich Increases Advertising

Sales and advertising plans for 1931 were discussed by the New York sales division of the Norwich Pharmacal Co. Dec. 24, which completed a three day convention at the Hotel New Yorker.

In announcing an increase in sales of the company's specialties, W. P. Tomlinson, advertising manager, made known that the company's appropriation for advertising during 1931 was the largest in its history totaling slightly less than $1,000,000.

Gratifying results were experienced in 1930 with specialties such as Unguentine, Amolin, and larger sales of these products were responsible for an estimated gain in net profits, despite a somewhat smaller dollar sales volume for the year in other materials.

Weicker 25 Years with Squibb

Commemorating his quarter of a century as an executive of E. R. Squibb & Sons, fellow officers and employes recently paid a marked tribute to Theodore Weicker, first vice president of the company. A handsome silver humidor, fittingly engraved with sentiments of esteem, together with a bound volume, printed in illuminated type, of autographs and expressions of regard from his associates, were presented to Mr. Weicker, in a rousing meeting at Squibb Memorial Hall, Brooklyn on Friday, December 19.

"Mosco" Trade-Mark Protected

The Examiner of Interferences has cancelled the trade-mark Masco, holding it interferred with the trade-mark "Mosco" of the Moss Company. Rochester, N. Y., on remedies for corns and callouses, and on corn cure. Since the marks used by the parties are deemed to so nearly resemble each other that confusion in trade would be likely when used on these goods hereinbefore mentioned it follows that the mark "Masco" should be cancelled, it was ruled.

Robert C. Kelly

Robert C. Kelly, associated with John Powell & Company for the last year and a half, has been elected vice-president of the company, according to an announcement by John Powell who says that "Mr. Kelly's industry and attention to business well merit this promotion."

Hinde & Dauch Take Buffalo

Hinde & Dauch Paper Co. have acquired Buffalo Box Co., Buffalo. The number of factories and paper mills of the former concern has therefore been increased to twenty-five and the company's annual capacity expanded by about 12,000 tons of finished products annually. The Hinde & Dauch interests have also been able to effect a considerable saving by consolidating its Buffalo sales office with those of the newly acquired company, and in addition the consolidation has afforded the company superior facilities in western New York and northwestern Pennsylvania.

Theodore Swann, chemical manufacturer and financier, was named president of Birmingham Post of Army Ordnance Association at a banquet at Tutwiler Hotel, Wednesday Dec. 3. A principal speaker was Assistant Secretary of War Frederick H. Payne. On December 4, Mr. Swann, who is chairman of Alabama Emergency Employment Commission, left for Washington to present copies of the recent survey of employment in Alabama to Alabama's senators and congressmen and representatives of the Hoover National Emergency Employment Commission.

Allaire, Woodward & Co., Peoria, Ill. have completed $100,000 additions to their factory to care for the complete manufacturing processes heretofore carried on at two plants, and to enable the company to provide better and more efficient service in connection with the entire line of botanical drugs, both crude and processed, and featuring pyrethrum flowers as a specialty. The old plant at 106 Main st., Peoria, where the company started business fifty-seven years ago has been vacated and will be sold or leased.

Kranich Soap Co., Brooklyn, N. Y., has issued a brochure entitled, "Directions for Making Liquid Soap and Liquid Shampoo from Coconut Oil Base Soap." Copies may be obtained upon request to the company at 70 Richards st., Brooklyn.

Edmund Fougera is now associated with R. H. Macy & Co. Laboratories, in charge of research and production. Mr. Fougera was formerly with Darnee, Inc., and more recently with Walgreen in Chicago.

Flora Aromatics Co., Inc. are now located at 920 Broadway, corner 21st st., New York.

Vick Financial To Retire Stock

Stockholders of the Vick Financing Corp. will vote at their regular meeting on January 27 on proposals to reduce the par value of the common stock from $10 to $5 a share, to retire 50,095 shares of common stock heretofore purchased at an average cost of $6.78 per share, and to authorize a further purchase for retirement of additional stock up to 100,000 shares at a price not in excess of $8 per share.

The annual report shows net asset value of $7.38 per share for the common stock, with investments valued at closing prices as of December 31, 1930, except the investment in 50,095 shares of the corporation's own common stock, which is valued at cost. Net assets at cost amount to $12,619,900.75 and at market value to $8,980,260.48. Common stock—the only class of stock issued—consists of 1,216,995 shares of $10 par value, including the 50,095 shares purchased and held by the corporation.

Income from interest and dividends for the year ended December 31, 1930, was $644,784.44; net loss from sale of securities was $81,196.83, and net income after interest paid, taxes and expenses was $427,894.95. Surplus as of December 31, 1930, was $449,950.75, after deduction of $239,259 for two dividends of 10c per share each paid on the common stock on August 15 and November 15, 1930.

New Low Reached

Prices of common stocks of drug and cosmetic companies reached a low for 1930 in the third week of December and recovery in the two succeeding weeks of the year has been slight, according to the index of the Standard Statistics Company, of New York. Prices of the stocks of 337 miscellaneous industries showed a similar trend. Detailed figures covering both these indexes are given below:

	1926 equals 100	
	Drugs and Cosmetics	*337 Industrials*
Dec. 3	124.2	109.6
10	116.9	103.6
17	115.8	98.2
24	117.0	98.7
31	116.4	99.6
1930 High	174.7	174.1
Low	115.8	98.2
1929 High	260.8	218.9
Low	258.6	134.5

Metal Package Takes Fischer Can

The merger of the Metal Package Corp., New York, and the Fischer Can Corp., Hamilton, Ohio, is announced by officials.

The Fischer company will continue to operate its plant as a division of the New York concern, without any change in policy. Plants of the Metal Package Corp. are located in Manhattan and Brooklyn, and in Baltimore. More than 150,000 square feet of floor space in addition to equipment are added by the combination.

Hook Drugs, Inc., has declared the regular quarterly cash dividend of 25c per share on common stock, payable Jan. 2 to holders of record Dec. 20. This rate has been paid since and including April 1, 1930. On October 1 last a 1% stock dividend was also paid.

New York Stock Exchange has authorized the listing of 114,349 additional shares of common stock (no par value) of Allied chemical & Dye Corp. on official notice of issuance as a stock dividend, making the total amount of shares applied for 2,401,791 shares.

Drug Industry Stocks

1930 Dec. 31 Bid	1930 Dec. 31 Asked	1930 High	1930 Low	Annual Rate	
		NEW YORK STOCK EXCHANGE			
110⅛	110⅜	156½	104⅜	5.00	American Can
147	148	150¼	140¼	7.00	pfd.
9	9¼	33	9	....	American Com'l Alcohol
47½	48	69¼	46½	4.20	American Home Products
2⅛	2⅜	22½	2	....	American Solvents & Chem Co.
7	8	33⅓	5⅓	....	pfd.
47	47½	64⅛	44	2.50	Colgate-Palmolive-Peet Com.
101	104¼	104	97	....	6% pfd.
6½	7	22½	5⅛	1.20	Container Corp. Class A
2½	3	8½	2	....	Container Corp. Class B
9⅛	10	33	7½	....	Coty, Inc.
62¼	63	87⅜	57⅜	4.00	Drug Incorporated
76⅛	76½	113	70¼	8.00	Lambert Co.
22⅜	24	36	21	3.00	Lehn & Fink
14	14½	37⅜	10⅓	1.00	McKesson & Robbins Com.
32	33½	49½	25¼	3.50	pfd.
21	21¼	63¼	18⅛	1.25+6%	Monsanto Chemical Co.
32	33	60⅞	32	3.00	Owens-Illinois Glass Co.
21¾	23	60⅛	31	1.00	People's Drug Store
14	15	27¼	11⅛	....	Sharp & Dohme
54	56	63¾	54	3.50	Sharp & Dohme, pfd.
64½	64⅝	139⅜	50½	7.00	U. S. Ind. Alc.
...	...	...	...	....	pfd.
¾	⅞	7⅛	½	....	Vadsco Sales
		NEW YORK CURB			
104	115	184⅞	100¼	....	Ches. Mfg. Co.
⅛	¾	1	⅜	....	David Drug Stores Allot. Ctfs.
1½	2½	7¾	1¼	....	Helena Rubenstein
12	20	23	10½	....	Heyden Chemical Corp.
...	...	7⅝	6½	....	International Perfume Com.
...	...	71	67	....	$6 Cum. pfd.
73½	79	90	55½	4.25	Mead-Johnson
½	10	2⅝	⅝	....	Nauheim Pharmacies Com.
1⅜	4½	6¾	1¼	....	pfd.
14¼	16¼	42	12¾	....	Newport Co. Com.
26	30	38	26½	....	Northam Warren Corp. Pfd.
28½	30	42½	28½	1.00	Parke, Davis & Co.
3½	4	23⅞	3⅜	....	Stein Cosmetics, Com.
5	5½	9¼	4¼	.40	Vick Financial Corp.
19	20	61	14	....	Walgreen Co., Com.
7¼	8½	21⅛	7⅛	1.00	Zonite Products Corp.
		CLEVELAND			
50	50	100	48	....	Dow Chem. Co.
103	103½	106½	103	....	pfd.
22	22	32½	22	....	Miller Wholesale Drug. Com.
16	18	22½	14	....	Weinberger Drug Com.
		CHICAGO			
33½	37	46¾	33½	2.00	Abbott Laboratories
16¼	16¾	42¼	15⅝	....	Katz Drug Co., Com.
½	¾	6	½	....	Lane Drug Co. Com. VTC
¼	½	15	¼	....	Cun. pfd.
		CINCINNATI			
9¼	10	18	9	....	Dow Drug Co.
...	...	107	100	....	pfd.
...	...	...	...	....	Standard Drug A
		BALTIMORE			
30½	30¾	33¼	30	....	Emerson's Bromo Seltzer
		UNLISTED			
...	...	...	...	....	Heyden Chemical Corp., pfd.
72	77	...	...	8%	Merck pfd.
...	...	...	...	....	Noxzema Chem. Co.
...	...	...	...	....	Squibb Com.
...	...	...	...	....	pfd.

New York Stock Exchange has authorized listing of 6,341 additional shares of common stock (no-par value) of Monsanto Chemical Works, upon official notice of issuance in connection with a 1½% quarterly stock dividend, payable Jan. 2 to holders of record Dec. 10, making the total amount applied for 429,062 shares.

Noxzema Chemical Co. has declared a dividend of $1.50 per share, payable Jan. 14 to holders of record Dec. 31. The last payment was 50c per share in July, making a total of $2 per share declared out of 1930 earnings. This compares with $1.50 paid in 1929. The company also reported sales for 1930 would be approximately $720,000, as against $547,000 for the previous year.

The directors of Bourjois, Inc., have declared a special dividend of 25c per share of the common stock, payable Dec. 31 to holders of record Dec. 26. The previous payment was a quarterly of 25c per share, made on Dec. 1, 1929.

Dow Epsom Salt

U.S.P. Recrystallized

THREE crystallizations are required to gain the unmatched needle crystals that individualize Dow Epsom Salt, U. S. P. Not only in uniform, beautiful appearance does this fine Dow product excel! A series of purification steps insures freedom from mechanical impurities and the elimination of such chemical impurities as manganese, iron, calcium sulphate and sulphites. ¶ Dow Epsom Salt U. S. P. does not dehydrate rapidly. This distinctive feature is made possible only by our special manufacturing process. Its purity and fine appearance are distinct sales advantages when re-packaging for resale thru retail drug channels. ¶ We will gladly quote on your requirements in any quantity.

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Acetphenetidin, U.S.P. — Minor Salicylates
Acetyl Salicylic Acid, Granulation, — 10% Starch
Methyl Salicylate, U. S. P. (Synthetic Wintergreen)
Acetyl Salicylic Acid, U. S. P., Powder or Crystals
Benzoic Acid, U. S. P. — Salicylic Acid, U. S. P.
Bromine, Purified — Sodium Benzoate, U. S. P.
Ferric Chloride, U. S. P., Solution or Crystals
Cinchophen, U. S. P. — Minor Bromides
Phenol, U.S.P. — Chloroform, U.S.P.
Sodium Salicylate, U. S. P.

THE DOW CHEMICAL COMPANY -:- MIDLAND, MICHIGAN

STURGE'S PRECIPITATED CHALK

CHALK CONTROL

Many dentifrice manufacturers in their search for a polishing agent that would polish the enamel and yet not injure it because of freedom from grit, and at the same time, be a chemically controlled product, naturally directed their attention toward Calcium Carbonate (Precipitated Chalk).

The only Calcium Carbonate which is satisfactory is a manufactured product, and not a by-product, as it is only in the process of the actual manufacturing of Calcium Carbonate that many undesirable elements can be eliminated.

Sturge's Precipitated Chalk meets with the approval of the largest dentifrice manufacturers, for the reason that it is a manufactured product and made from the finest raw material obtainable and is subjected in every phase of manufacture to the most rigid control in order to assure a finished product absolutely in accord with the individual tooth paste manufacturer's specifications.

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FOR A GOOD TOOTH PASTE

Belladonna Leaves

Baling the Leaves

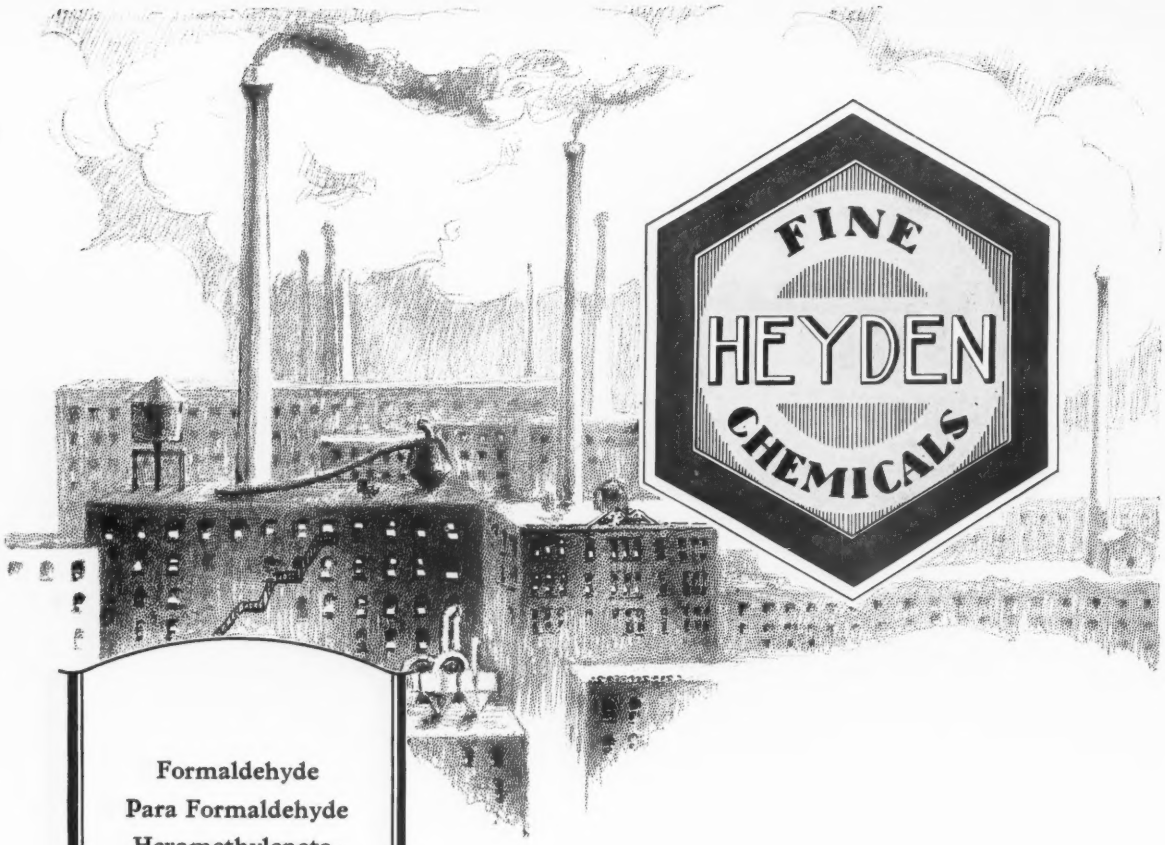
ALTHOUGH many of the botanicals imported into the United States from Europe occur wild in their countries of origin, many of these products are coming under the direction of intelligent production organizations which insure this country of a supply of the drugs that is as steady as it is uniform in meeting the requirements of the Food and Drug Administration, and of the consuming manufacturers.

As an illustration of just what is happening let us look at belladonna leaves.

For many years there existed a general belief among European jobbers and exporters that Slovakia produced a better grade of belladonna leaves than does any other country of Europe. However, experiments of recent years have shown that a very high quality of leaves can also be obtained in two districts of Yugoslavia—a quality of leaf that leaves little to be desired.

Just why certain districts of Continent produce better grades than others has not been determined, although it is quite freely stated that a certain height

Large quantities of leaves, outside the cleaning and drying plant



Formaldehyde
Para Formaldehyde
Hexamethylenetetramine
Benzoate of Soda
Benzoic Acid
Bromides
Benzaldehyde
Benzyl Chloride
Glycerophosphates
Acetyl Salicylic Acid
Acid Salicylic
Methyl Salicylate
Sodium Salicylate
Minor Salicylates
Silver Salts

CREOSOTE

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SALICYLATES

HEYDEN CHEMICAL CORPORATION

50 UNION SQUARE **NEW YORK**
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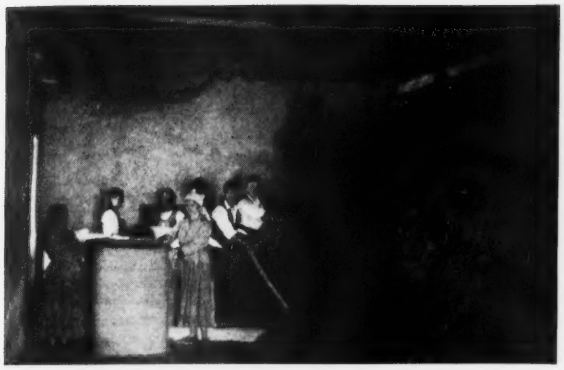

Another baling scene

above sea level seems to create the ideal conditions for production of high test leaves.

A large organization with collection depots, cleaning and packing plants has purchased from the government the monopoly for collection of the leaves in the two districts in which the high grade leaves are said to grow. The company sends out women to do the collecting and then cleans, dries and packs the leaves for export. The collection of the leaves is definitely fixed by the government and extends from July to September for the leaves of the belladonna. The period for collection of belladonna root is fixed from September to snowfall which generally occurs during late November or early December. The leaves must be picked leaf by leaf by the women collectors and therefore the work is quite time-consuming.

The proper treating of the leaves at the cleaning plant is said to have a very marked effect upon the final quality of the leaves.

The leaves are brought by the collectors to the cleaning plant. The leaves are cleaned and the excess moisture is driven off. Approximately 50 per cent. by weight is lost by the drying process, this loss running up to 65 per cent. on the early collected leaves. After the leaves are cleaned and dried, the lots are mixed so as to produce a uniform quality product, and a product that will be as close as possible to previous shipments.

Some idea of why mixing is necessary may be gained from the fact that while the U. S. P. alkaloid requirement for leaves is 0.3, the leaves often run as high as .59 to .65. The root likewise often runs well above the U. S. P. requirement of .45, mostly running between .50 to 83.

Belladonna leaves are sold on a pound basis no matter how far they test above U. S. P.

There are several factors in the handling of belladonna leaves that can seriously alter the final alkaloidal content of the finished product. The matter of properly drying the leaves is clearly indicated by the fact that if the leaves are dried on the same day that they are plucked, the content in alkaloid will not be fully developed and will be low. Therefore, the goods must be left in the wet condition in which they have been delivered for a length of time—the time depending upon the weather and the period of the year. If this precaution is taken the leaves can be dried in a manner that will preserve the total amount of alkaloids originally present in the leaves.

Also if the beginning of the drying process is too long delayed, or if the drying is conducted in an incomplete manner, so that too much moisture remains in the leaves, gradual deterioration reduces the alkaloidal content in an unusual proportion. An experience is told of a lot of leaves that tested before shipment .59 per cent. alkaloids. A new man in a new plant had insufficiently dried the leaves. When the goods arrived in Rotterdam after shipment from Yugoslavia, the bright green color had disappeared and the leaves tested only .24 per cent.

Trucks loaded with leaves for export

Belladonna leaves can be obtained with an insoluble ash content of only 0.6 to .13 per cent. although the U. S. P. only requires that the ash content be held below three per cent.

Another factor that is important from the point of quality is that scapola leaves must not be collected with the belladonna leaves. Lots of belladonna leaves are oftimes rejected by the Food & Drug Administration due to the fact that scapola leaves are present in rather large amounts.

Buchu Output Off

Buchu leaves remain at prevailing levels, namely 25c and 27c per lb. with rather a dull market prevailing. This commodity has felt the general let up in buying during the general inventory period but has been well held under the circumstances.

The production of buchu leaves in the Union of South Africa for the season of 1930 was expected to be somewhat smaller than that of the year 1929, reports Consul Cecil M. P. Cross, Cape Town. The yield from the Government forest reserves was estimated at 25,000 pounds, as against 35,000 pounds for 1929; 30,000 for 1928; and 20,000 for 1927. This indicated a total yield from all sources for the 1930 season of about 200,000 pounds.

The bulk of the buchu, usually completely harvested before the end of March, is obtained from plants growing on private farms, while some grows wild and in a semi-cultivated state, but the yield of the government forest reserves is usually a reliable barometer as to the quantity available.

'Roche' Fine Chemicals

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QUININE and SALTS

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Brucine
Quinidine
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Colchicine
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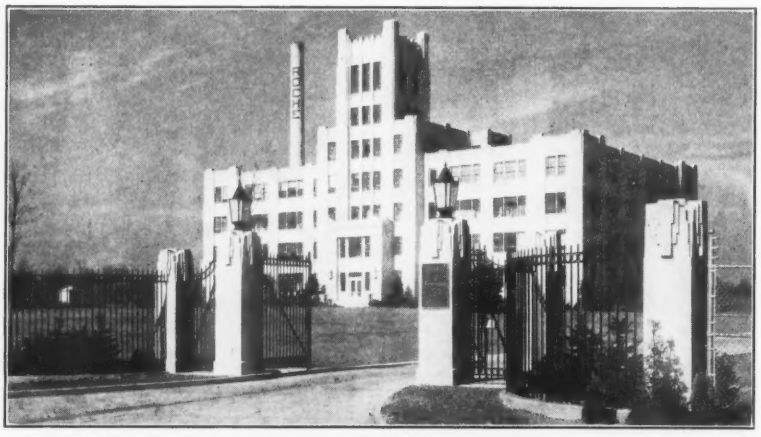

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NUTLEY :: :: NEW JERSEY

The Decline in Essential Oils*

Blank & Stoller

By A. D. Armstrong

THE past fourteen months have witnessed a declining market which went further and with a degree of violence which is probably unprecedented in the history of the essential oil industry. At the beginning of 1930 we stated our belief that the low average of prices of Essential Oils prevailing at that time would result in confidence and willingness on the part of consumers to purchase freely. However, the chaotic conditions encountered throughout 1930 could not possibly have been foreseen at that time and while prices were then low compared to the average of past years, they have continued to decline steadily and gradually with but few upturns until to-day the general level is far below that existing any time in the past twenty years.

The causes for this condition are so similar to those which have affected other industries that we need not dwell upon them at length. Briefly it may be stated that in some instances unusually large crops combined with the decreased consumption resulting from the business depression was an important factor. Another contributing factor was the need for cash on the part of producers and in some instances of distributors as well. Their sacrifice of stock without regard to cost, depressed prices even further than the abundant supply of raw material would have justified had business conditions in general been more favorable.

The natural result was an extreme buyers' market and the pressure on distributors resulting from this has, unfortunately, tended to undo some of the constructive work accomplished the past few years in the nature of standardization and in eliminating undesirable trade practices. The necessity and over-anxiety to sell has brought about in some quarters unusual concessions in the form of special terms, deliveries, etc. which, in the long run, is good neither for the essential oil industry nor its customers. It is, however, a matter for congratulation that the members of the Essential Oil Dealers' Association have quite generally and firmly maintained the integrity of their contracts with buyers, the elimination of protection against decline in price having been one of the most constructive and stabilizing moves yet undertaken.

Study of the appended list comprising thirty-two essential oils responsible for the major portion of the annual tonnage, shows that while prices at the beginning of the year were considered by the trade even then to be below normal, stand now at a much lower level, lower than could possibly have been expected or foreseen. Of the thirty-two oils considered, thirty have declined and only two have advanced since the beginning of 1930, the percentage decline over the entire list amounting to 24.9% within the space of one year. While no statistics are available as to the actual tonnage distributed, it is doubtful if it equalled that of 1929 as consumption decreased because of the general business depression.

In common with the industries closely allied with ours, we foresee a gradual improvement in 1931, slow but steady and the last half of the year with conditions again on a fairly satisfactory basis. Many of the commodities in our line are now being sold at prices

*Committee Report to Drug & Chemical Section, N. Y. Board of Trade. Read by Mr. Armstrong.

IN the hands of our organization your orders will be handled quickly, efficiently and accurately.

Not only do our manufacturing facilities and resources enable us to give the service our customers must have, but also our sales organization is such that each customer receives individual attention.

Such co-operation is invaluable to all users of alcohol and industrial chemicals during unsettled periods.

Try us. See for yourself!

...Pennsylvania Sugar Company...
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Look Ahead For 1931 —

IN BUYING
NEUTRAL POWDERED SOAPS

Deal directly with the producer who can give you intelligent soap service on your problems.

Don't be satisfied with a soap that does "fairly" well, thereby inviting manufacturing difficulties.

Demand the specific type of soap that definitely meets your formula requirements.

POWCO BRAND Neutral Powdered Soaps offer you a selective buying basis heretofore unavailable.

POWCO BRAND Laboratory Controlled production covers the entire range of physical and chemical characteristics for dentifrices and other toilet productions.

Samples Submitted

JOHN POWELL & CO., INC.

114 E. 32nd Street New York, N. Y.

below the cost of production. Some large buying factors with surplus cash are covering their requirements for two and three years ahead because of these bargain prices. This helps the situation somewhat and when consumers in general begin to take advantage of these low prices, confidence will return and the essential oil dealer can again operate freely and to better advantage. It must be kept in mind that since a period of weeks and in some cases months elapses between the time of placing an order abroad and receipt of the goods here, the essential oil dealer during a steadily declining market is frequently faced with the necessity of selling his goods at less than he paid for them. Complete restoration of confidence and improvement to normal levels will continue to depend somewhat upon the ability of the primary foreign source of supply to sell its good on a basis of actual value and to maintain its selling price on that basis. Confidence here is closely dependent upon stable conditions in the foreign producing districts.

Essential Oil Prices

	Jan. 2, 1930	*Dec. 31, 1930*	*High for 1930*	*Low for 1930*
Anise Star USP	1.00	.70	1.15	.70
Ginger	6.50	5.25	6.50	5.25
Bergamot HP	3.15	2.70	3.40	2.70
Bois de Rose	1.85	1.40	1.85	1.40
Cananga, Native	2.50	2.20	3.30	2.20
Cassia, Rect. USP	1.40	1.05	1.40	1.05
Caraway, Dutch	1.70	1.45	1.70	1.45
Citronella Ceylon	.51	.49	.65	.49
Citronella, Java	.76	.60	.76	.60
Cloves	1.85	1.65	1.85	1.65
Camphor, Jap. Light	.36	.20	.36	.20
Eucalyptus, USP	.55	.39	.55	.39
Camphor, Sassafrassy	.28	.20	.28	.20
Cedarwood, Light	.25	.38	.46	.25
Coriander	6.25	5.00	6.25	5.00
Lavender Flowers, USP. Extra	3.25	2.25	3.25	2.25
Lemon, Italian, USP	3.00	1.20	3.00	1.20
Lemon, California	2.00	.85	2.00	.85
Lemongrass, Native	.75	.70	.75	.70
Limes Distilled	8.75	8.00	8.75	7.00
Limes Handpressed	19.75	17.00	19.75	17.00
Nutmeg	1.70	1.25	1.70	1.25
Orange Sw., Italian	3.75	2.65	3.75	2.65
Orange Sw., Calif	3.45	2.45	3.45	2.45
Pennyroyal, European	1.20	1.05	1.20	1.05
Peppermint, Rect. USP	3.50	2.30	3.50	2.30
Spearmint	4.75	2.60	4.75	2.60
Patchouly	7.50	5.50	7.50	5.50
Geranium, Algerian	5.25	4.35	5.25	4.35
Geranium, Reunion	4.75	3.90	4.75	3.90
Wormseed	3.40	4.00	4.35	2.80
Wormwood	14.50	6.00	14.50	6.00

Citrus Oils Remain Low

The citrus oil market after having shown encouraging signs of improvement from the producers' point of view about a month ago, has again become easier. Italian lemon is offered on spot at $1.10 to $1.35 per lb., with orange being offered at $2.40 and $2.50 per lb.

The replacement market is reported as favorable to much more business than is now being done. Lack of demand by consumers has tended to reduce quotations again. Low and favorable prices on orange oil failed to stimulate buyers to the point of placing any considerable amount of business. Consumers stocks on hand seemed to care for their immediate requirements.

Consuls at Palermo and Messina report that according to a cable from Naples, dated December 2, 1930, the essential oil market continues to be unsatisfactory, with a downward trend in prices. Shipments are small and considerably under October.

The consortium of bergamot producers seems an accomplished fact. It is reported that the first move of the consortium will be to force up the price of bergamot oil by purchasing available lots at 25 lire per Sicilian pound and make efforts to increase the use of this oil for new industrial purposes.

Essential oil price quotations in Messina at the close of November in lire per Sicilian pound were as follows: Lemon sponge, 8; lemon machine, 6; sweet orange sponge, 22; mandarin sponge, 28; bergamot machine, 21½. (Sicilian pound equals 317 grams; average value of lire is $0.0523 United States currency.

During October, the United States imports of lemon oil amounted to 19,610 pounds, valued at $16,994. Orange oil imports amounted to 3,658 pounds, valued at $8,266. Exports of orange oil from the United States amounted to 2,261 pounds, valued at $4,542.

Values of the four principal essntial oils declared at the Messina consulate for export to the United States during the September quarter, registered a heavy decline, however, volume increased slightly, dropping from $203,396 in the September quarter of 1929 to $105,504, in the quarter under review, a loss of over 48 per cent.

The following table shows the declared exports to the United States of the four principal essential oils during the September quarter of 1929 and 1930:

	1929		*1930*	
	Pounds	*Value*	*Pounds*	*Value*
Bergamot	15,654	$33,083	24,340	$52,046
Lemon	31,042	97,760	32,548	33,099
Orange	13 555	48,809	7,282	19,520
Mandarin	625	3,744	258	839
Total	60,876	$203 396	64 428	$105,504

Lavender Oil Easier

Lavender oil is easier at from $2.20 to $2.25 per lb. Requirements have not been numerous with buyers tending to stay out of the market.

Consul Robertson Honey, Nice, reports that the average price paid on the spot for lavender flowers in France during 1930 was $2.54 per kilo, the lowest paid during the six year period 1925 to 1930.

Even prior to the war the lavender flower and oil market was subject to large fluctuations. Lavender oil prices per kilo (2.20 pounds) for 40 per cent. ether content during 1907 were $3.86, 1908, $1.54; 1921, $13.67; 1922, $4.64; 1923, $10.30; 1927, $6.66; and during the current year $4.71.

The greatly increased use of lavender oil in late years has naturally stimulated cultivation and production, estimated in 1900 at 50,000 kilos, has risen to about 150,000 kilos, for a good year. It is roughly estimated that there is a production of 125,000 kilos in the South of France. Production from countries other than France is between 5,000 and 6,000 kilos or 5 per cent. of the world's production.

The prices paid for lavender oil during 1924 tempted producers, and plantations were extended, with overproduction as the inevitable result. It is thought that the present range of prices may open up new outlets particularly in the preparation of antiseptics and insecticides. Hitherto the main source of demand has been the soap trade.

Citronella Market Soft

Citronella has been easier in the spot market with the Ceylon selling at 44c per lb. and the Java at 55c. A fair sized demand has been noted in this market but stocks in the hands of sellers and buyers alike are reported as above normal.

Exports of citronella from Java during the month of December 1930 have amounted to 69 metric tons. The figures in metric tons are now:

	1926	*1927*	*1928*	*1929*	*1930*
January	104	107	104	67¼	57
February	100	135	98	72	62
March	118	100	81	107	63
April	105	90	114	82½	79
May	73	90	184	121	62
June	95	132	109	43	48
July	110	94	78	80	68
August	81	88	77	77	86
September	95	141	58	66	70
October	108	96	91	55	76
November	93	122	77	41	69
December	100	117	69	55	76
	1,182	1,312	1,140	867	816

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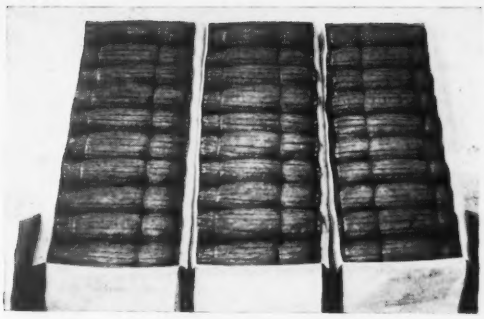

Will Vanilla Strengthen Soon?

While immediate strengthening of prices might follow adoption of Ardoin Plan, 1933 looms as the time of shortage of beans.

Vanilla beans on the vine

BOURBON vanilla beans are still in a deplorably weak condition and efforts to stablize them are taxing the minds of those interested in their production and marketing. As reported in our November issue an effort has been made to destroy this year's crop estimated at 700 tons. Then with present stocks of 600 tons, the estimated consumption for the coming year of 550 tons will place the market in a very firm position with only 50 tons carry-over.

This proposed method of bringing prosperity back to those interested in vanilla beans is known abroad as the "Ardoin Plan." The plan has been adopted by the Syndicate of Importers and the Syndicate of Planters in Paris. And the last meeting of Vanilla planters in Antalaha passed a resolution in favor of the plan, inviting chambers of commerce of other growing districts to join. In fact, it is stated abroad, nobody seems to be against the plan.

However, the latest report seems to indicate that no matter how many vanilla bean producers or sellers are in favor of the plan there is little chance that it will be adopted. For the report is to the effect that the Colonial Governor in France has stated his refusal to approve it. The reason for this is perfectly clear since it is believed that if he approved restricted production of vanilla, he might be forced to do the same thing for a great many other commodities that the French colonies produce.

(Continued on page 89)

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Market Facts From Grasse

¶ Jasmine Value Lower

¶ Lavender Fairly Steady

¶ Gathering Parma Violets

¶ Grasse Seeing Economic Change

By O. C. Zilisch

Our Grasse Correspondent

WEATHER conditions throughout France have been anything but satisfactory, with rain falling in many of the districts almost every month of the year during 1930. In the South of France, and particularly the Grasse region, the winter season as such has, up to the present time, not made an appearance. Autumn weather for 1930 was ideal from the tourist's point of view, although it might be said that the slight rains which visited the Grasse section about the middle of December were very welcome. Spring weather has been the rule, with the result, as pointed out during the past several months, that the vegetation is not getting the rest it should have at this time of the year. True a bit of cool weather has come in to relieve the anxiety, and, fortunately, the days remain very fine, so that the work in the fields can be successfully carried out. With this work nearing completion, a little rain would be very welcome.

New Plantations Scant

The question of new plantations in the Grasse region is a very serious one, as mentioned in several previous reports, and even though the weather for this type of work is practically perfect, there is very little activity, comparatively speaking. Apparently, the entire district is treading water, so to speak, in order to see just what the next few months will produce, especially in view of the economic crisis prevalent in certain countries. Unemployment is still quite conspicuous by its absence in France, but measures are now being taken to stop the influx of foreigners to keep all French people working.

Practically no one in the Grasse region can bear the talk of jasmine, particularly those who have loaded up because of this season's crisis, as reported during the past few months. One manufacturing perfumer of wide reputation in the United States and other countries has lost considerable business, due to the general world conditions existing, and his orders for jasmine are, consequently, less than they have been for a number of years. This same situation exists in connection with other manufacturing perfumers who used to use a great deal of jasmine, which is called *la base de tous les bons parfums*, or base of all good perfumes, by the French.

Jasmine Value Lower

An interesting sidelight on the jasmine situation was recounted recently by a distilling perfumer, who stated that certain landowners in the Grasse region are doing everything possible to rid their properties of jasmine, for the reason that the sale value with jasmine on the property is lowered to such an extent that big losses are anticipated wherever it is grown. In other words, it is an economic question that hits deeper than any other crisis in the history of jasmine, the flowers of which brought 36 francs ($1.44) per kilogram only several years ago. Naturally, the situation would not be so acute if it were not for the seemingly increasing depression of business among the manufacturing perfumers throughout the world at the present time.

One thing is taken for positive already among those in the Grasse region, and that is that this year's yield of jasmine will be way below that of 1930, due in large part to the destruction of many plantations, even those which might be made to produce comparatively large amounts of flowers. For the moment, therefore, everything possible is being done by the growers to secure other cultures to replace the jasmine. Steps in this direction are not only a matter of hearsay and rumor, but they have already been taken in a number of instances.

Checking Unfavorable Publicity

Objection is taken among a number of the large distilling perfumers of Grasse to some of the reports published in American publications recently regarding the lavender situation, as well as the situation with respect to the jasmine. Apparently, several reports have been distributed in the United States that have given the trade a highly unfair and untrue picture of the crisis in the Grasse region. No one denies that there is a crisis, but it is held that some of the reports regarding it have been so colored that only bad can come from them. A French translation of one report is being distributed among the distilling perfumers, and everything is being done to stop other reports of this nature from seeing the light of day in America. This is, of course, a big task to undertake, but the feeling behind the move is determined, if one can gauge by the opinions expressed.

There is no question but that certain stocks of jasmine and lavender products held by some of the firms in the Grasse section are large, weighing heavily on the market at the present time, but the crisis is not nearly so serious as some people have reported. Over-production has hit the Grasse region in the same way that it has struck other parts of the world during past twelve months or so, but a sudden movement of stocks one way or the other, that is either locally or abroad, would relieve a situation that is now slightly top heavy.

Lavender Fairly Firm

A report that lavender is going way below what it is at the moment is said to be exaggerated, as those holding lavender stocks are firm in their decision, so they say, to hold on despite the need of money. The same holds true for clary sage, also affected by over-production, although certain of those holding stocks of clary sage products, due to being badly in need of money, are, it is stated, ready to liquidate at prices varying between 500 and 800 francs ($20 and $32) per kilogram, certainly a big drop from prices for clary sage products not so many months ago. Those who can are, of course, holding on, looking forward to an amelioration in the market situation.

Clary sage grows very easily, and when a demand was created for oil of clary sage comparatively recently practically everyone went into the business of raising this culture. The result this year has been a really serious case of over-production, with a steady decrease in the market price of the oil. This culture, it is thought,

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will also receive a thinning out on the part of the growers, with the possibility of a rise in price some time during the future. Such a rise in price will, of course, not come for quite some time, as the holdover stocks are said to be quite large in all quarters.

Gathering of Parma violets, growing rarer each year in the Grasse district, has begun. Market prices of the flowers, at the present writing, have not been established. The yield for this season will be small. Cryptogams and other maladies have discouraged the growers with this culture, which used to be highly important in the Grasse region. It is predicted that a few years will practically see the discontinuance of this flower for the distilling perfumers, with the exception of those plantations under the control of some of the largest firms in the section.

The orange trees, because of the mild weather, continue their development, which, as already pointed out in previous reports, is looked upon as somewhat dangerous if a cold spell of any severity makes its appearance. In case of a severe cold spell the damage might be quite serious, due to the abnormal condition of the orange trees. Nothing definite can be stated with respect to the yield for this year, as it is too early at this time to foresee just what is ahead. Generally speaking, however, the situation appears to be favorable from every point of view, provided, of course, that weather conditions continue satisfactory.

Dunging of the rose trees is now in progress. This culture is also passing through a rather serious crisis, particularly as the past summer tired out the rose trees in the Grasse region. From many points of view the situation is anything but encouraging, and the replacements this year will, it is thought, barely replace the plantations that have been discontinued or destroyed.

Placing of the jonquil bulbs has been carried out successfully. An effort was made some time ago to increase the plantations of this culture, but the low prices paid last year have stopped this spurt almost completely. The yield for this year on the jonquil will, therefore, in all probability see no increase whatever. In fact, some feel that the jonquil yield will even fall below that of last year.

Tuberose bulbs have been taken in, and some interesting job lots can still be found among the growers. The yield for this year as regards the tuberose is estimated as having been one-fifth of a maximum yield before the war. Prices paid for the 1930 yield, although not anything out of the ordinary, were satisfactory, and the opinion is expressed that the bulbs in existence throughout the region will be conserved. This means that the yield for 1931 should be equal to that of last year, if not a little larger. Apparently, one or two distilling perfumers are receiving increased demands for oil of tuberose, once a very popular product among the manufacturing perfumers.

The mimosa is at the present time in full bloom, and shipments among the florists are at their height. This flower is very popular among the French, and large quantities are sold in cities like Paris. Prices paid for the mimosa this year are not as high as they were last year. The yield for the distilling perfumers is treated in March. Those close to the situation feel that prices among the distilling perfumers will be practically the same as they were last year, with little or no change to speak of.

Much has been said and written about the situation in Grasse, but there are still those who think that the conditions are alright, and that the crisis is only a passing one. This may be true, but those who are really close to the soil feel sincerely that the situation existing to-day is different from that which existed other years. In fact, it is pointed out that the entire economic structure of the world is changing, and that the Grasse section is also coming in for its share of change.

The question of securing sufficient help for gathering flowers is a very serious one, as many people do not want that type of labor. Several large producers of perfume-flower plants are successfully growing these cultures on land that will take the operation of farm implements of the latest design. Gathering, however, must, in practically all cases, be accomplished by hand, and the problem remains a very acute one.

Psyllium Seed Stronger

With a good consuming demand here for psyllium seed the market has strengthened up somewhat and the commodity is now offered at 38c per lb. This product is controlled by strong hands and its marketing is being well handled with an increasing price in spite of the fact that production has been very heavy.

The 1930 crop of French psyllium seed has been good, probably more seed being produced than normal demand requires, states a report from the American Consulate, Marseille. An estimate, believed to be reliable, places the 1930 crop at approximately 1,400 metric tons, an amount considerably in excess of the 1929 crop.

On November 20, the price was 14 to 15 francs per kilo, or approximately 27c per pound. It is estimated that a profit corresponding to that realized on other seeds would be possible even at the price of 6 francs per kilo (approximately 11c per pound.)

During tht first ten months of 1930, a total of 1,654,684 pounds, valued at $377,839, is known to have been shipped to the United States.

Spanish Saffron Recedes

Spanish saffron, which had been advancing rapidly during the past several months, has received a setback in that price was reduced to $11.25 to $11.50 per lb. Less than a month ago the high price prevailing was $14.50 per lb. with reports prevailing that the crop had been very small and of an inferior quality with the cost of replacement advancing rapidly. This undoubtedly is still true but the small demand following the turn of the year caused a decline in the import costs which, together with a more favorable rate of exchange, eased the spot market considerably. It is the opinion in circles that know, however, that a stronger tone will again show itself with a general increase in consuming interest.

The total production of saffron (crocus) in Greek Macedonia, during the calendar year 1929, amounted to 493 pounds, states vice consul Donal F. McGonigal, Saloniki. In spite of the unusually low price of approximately $10 a pound, 383 pounds were sold, principally to French buyers, thus leaving a carry-over of 110 pounds. No statistics are available showing the area planted to crocus in 1930, but a local expert estimates that the increase over 1929 was about 50 per cent. Worms and too much rain this year however, hindered the growth of the crocus, so that the production is below that expected and will amount, it is reported, to from 450 to 500 pounds of red saffron and from 250 to 300 pounds of yellow saffron, as against 310 and 183 pounds, respectively, in 1929. The quality of the present crop is said to be at least as good as the crop of 1929. The villagers at the suggestion of exporters used tin cans for storing the pistils, with the result that the perfume and color of the saffron were preserved.

Inquiries have been received recently by local exporters of saffron from American, British, Turkish, and Chinese firms, and it is expected that negotiations now under way may lead to higher prices than in 1929. It is reported that the exporters will begin the purchase of the 1930 crop from the producers in the early part of December.

The replacement price on ergot is strongly held abroad although little interest has been shown this commodity by buyers in the spot market. Spot stocks are not large, with the Spanish grade particularly. Quotations here remain unchanged.

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Gum arabic which had been decidedly weak for several months past seems now to have been pegged at 12½c per lb. The market on this commodity declined during the past year from a high of 27c per lb. The spot market continues with but little interest by buyers. The new crop is now arriving in the Sudan but no figures are yet available as to the quantity of the gathering.

Regarding past performance, the Department bulletin states that the total arrivals of gum at all markets in the Kordofan Province during September amounted to 13,282 cantar (1 cantar is 100 pounds) and merchants are of the opinion that October arrivals will continue to be large. Arrivals at El Obeid market were 6,083 cantars; the average price was about 97 piasters tariff (1 piaster equals 5c) per cantar.

Prices rose somewhat during the middle of September owing to smaller arrivals even though the market abroad remained weak, but receded to former levels toward the end of the month. Stocks are larger than those held last year at the same period.

The following table shows the quantity of gum arabic exported from the Sudan during the nine months of the present calendar year:

January to September 30, 1930

Country	*Quantity Tons*
Great Britain	3,376
United States	3,048
Belgium	1,026
France	2,894
Germany	2,704
Italy	1,154
Other countries	2,624
Total	16,826

Exports of gum during the same period in 1929: 15,568 tons.

Exports of nux vomica from Saigon, French Indo-China, for the first 9 months of 1930, amounted to 197 metric tons, against 253 metric tons for the same period of 1929. Of the 21 tons exported during the September quarter, all went to France. The price range during the first nine months of 1930 was from $8.80 to $10.40 per 100 kilos. (Consul H. S. Waterman, Saigon.)

Chamomiles continue scarce on spot with the increase of a month ago being well maintained. The material that was held up by the department because of the quality have not as yet been replaced so that, although distribution has been poor, the spot shortage has been such as to hold the price at the advanced figure.

Ipecac, Carteagna root is lower at $2.05 per lb., the powdered being held unchanged at $2.40 per lb. Rio is easier in undertone with supplies, however, reported as light. With the beginning of the new year demand has fallen off and is reported below normal on all grades.

Horehound prices remain steady with movement to manufacturing consumers reported as improved somewhat with the turn of the new year.

Senega, although experiencing a dull period, has held at prevailing levels with no tendency to shade from scheduled quotations. This has been due principally to the firm replacement market.

Opium Control in League

At a meeting in Geneva, January 9, Turkey reaffirmed her willingness to adhere to the Geneva opium convention and the projected convention for limitation of the manufacture of narcotics, provided the latter agreement assured to her a "satisfactory" quota. The statement was made before the opium advisory committee, which began its session January 9, by the Turkish Consul at Geneva, Shevket Fuad Bey, who is the first representative Turkey has sent to the committee.

His declaration differed from the one Turkey made at the recent London conference of representatives of narcotic manufacturing countries, which sought vainly to arrange quotas among them for a limitation convention, only in that Turkey then asked for a quota representing 30 per cent of the world's entire legitimate output of narcotics.

The advisory committee, which is preparing a limitation convention to submit to the May conference on that subject, will have to pass on this question of a Turkish quota as well as the question of quotas for others. As one delegate has pointed out privately, there are two bases for fixing quotas.

If legitimate production were considered as a base it would be hard to justify Turkey's claim for any quota, since until recently she manufactured no narcotics, and though she now makes huge quantities most of it is believed to go into illicit trade. If the quotas were based on combined output for legal and illegal trade, Turkey would have the right to have a quota basis, but to arrange the quotas equitably under such a system all other manufacturing countries would also have to give the figures of their present output for illicit traffic.

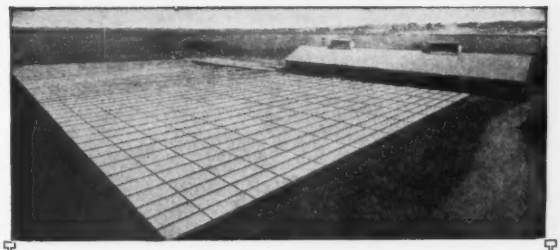
Such figures, the delegates said, would be very illuminating, but it is doubtful if the others would give them. On the other hand, since the limitation of manufacture would be a farce if Turkey's large output were left unlimited, it is considered that some quota satisfactory to the Turks must be arranged. Turkey's representative told the committee that since Turkey was a leading producer of raw opium it was only in accordance with good economics that the raw material be manufactured into drugs on the spot.

Sir Malcolm Delavigne of Britain submitted a draft of a convention for the limitation of manufacture as a basis for discussion by the committee. The delegates will consider this project first, and it is already evident that there will be plenty of criticism of this draft.

It is made clear that the important question of extending the proposed convention to drugs not covered now by the present Geneva convention will not be excluded. Noatake Sao of Japan stressed the necessity for such extension. He also criticized the British draft convention's method of allocating quotas.

Glycerine has been reduced in price during the past month to a level of 12½c per lb. At this level a firmer tendency is noted. The outlook for the future of this commodity is uncertain but first hands are of the opinion that the market has declined to a point where it cannot go much lower. Demand showed a slight improvement with the beginning of the new year but stocks available are said to be somewhat above normal so that a decided buyer interest would have to develop to materially strengthen the situation.

Juniper berries are firm in keeping with the replacement situation which held up well. Demand on spot has been satisfactory with a fair sized jobbing request reported.



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Pyrethrum Moves Easier

Pyrethrum flowers are easier in the spot market at from 26c to 27c per lb. with a fair amount of business obtained at these figures. The tendency of the market has been easy under pressure of declining cost abroad with a noticeable amount of competition present.

The 1930 crop of Japanese pyrethrum, states Consul Howard Donovan, Kobe, amounting to about 14,700,000 pounds, fell short of the estimate by 10 or 15 per cent. The 1931 crop will be slightly larger, in the opinion of local exporters. The quality of the flowers in the 1930 crop was excellent.

Total exports of pyrethrum flowers from Kobe, Japan, during the first nine months of 1930 amounted to 5,157,000 pounds, valued at $889,000, as compared with 5,331,000 pounds, valued at $1,153,000 during the same period of 1929.

To-day Japan is said to produce 70 per cent. of the world's yield of pyrethrum from Hokkaido. In 1928, it ranked twenty-sixth among the principal exports of Japan.

In 1925 and 1926, there was an overproduction of about 5,000,000 pounds, which resulted in restricted production in 1927, and in 1928 the export figures exceeded the production for that year. Between 1912 and 1928 export increased from 3,637 piculs to 104,548 piculs (1 picul equals 132 pounds). The chief customer is the United States.

An article in the Bulletin of the Imperial Institute, London, October 1930, describes the Dalmatian (white) species and the Persian (red) species, the respective insecticidal constituents, uses, cultivation, picking, drying, packing, inspection, output, cost of production, trade conditions, export movement, quotations, future prospects, and comparative prices of pyrethrum.

Menthol Monopoly?

Menthol remains at from $3.85 to $4.00 per lb. It is reported that considerable menthol has been bought for future arrival due to the fact that Japan has been willing to do business at low prices. Business on spot is in a small way with stocks held by dealers reported as not excessive.

Assistant Trade Commissioner H. B. Titus, of Tokyo, reports that at a meeting called by the Japanese Minister of Home Affairs, at which the governors of all the prefectures in Japan were present, it was stated that, if a peppermint monopoly were established, dementholized peppermint oil of uniform grade could be offered to exporters and the monopoly would be able to curtail sales of peppermint oil and thus stabilize the price. No particular details as to the method of procedure were discussed, and it is believed that at present no investigation of this matter is being made either by the Monopoly Bureau, or by the Hokkaido Perfectural Government.

One of the largest dealers and exporters of peppermint oil states that dealers were not in sympathy with the idea and that resolutions to that effect were drawn up and presented to the Department of Commerce of Japan.

Although prices for Thyme have been shaded below the official price schedules as an inducement, buyers have held aloof from the market. Consumers seem to have ample stocks for immediate requirements and are not in the market at the present time.

Will Vanilla Strengthen?

(*Continued from page 81*)

Advices direct from France state that in the event the Ardoin Plan is not adopted, it will not be until the end of 1933 before there is a shortage of vanilla. This is based upon the additional assumption that this country will not consume more than 300 tons annually.

This shortage will come about due to the fact that the only natural manner in which the present market can recover is by means of the failure of many of the growers. Only those large owners who are very rich and those small growers who can fecundate the beans themselves without having to pay outside labor, will be able to survive. For at the present time beans are available at prices which cover little more than shipping charges and duties.

The best grade of Bourbon beans bring 55 cents per pound in France, while the actual cost of shipping the beans to France from Madagascar 30 cents per pound. The cost of second quality in France is 37 cents per pound, and of the 3rd quality 33 cents per pound.

The charges of bringing the beans to this country are 36 cents per pound—including 30 cents duty and 6 cents freight. There is in addition broker charges of 2 or 3 per cent. When it is realized just how much of the present selling price is going for fixed charges, it can readily be appreciated that the grower of beans to-day can obtain practically nothing for his goods; and if he can get nothing for his goods, he will sooner or later have to stop producing, unless the beans cost him nothing to produce.

Mexican Situation

The situation in the Mexican beans is none too promising from the grower's viewpoint. With a crop of 180,000 to 200,000 pounds for last year, the coming crop is variously estimated at from 250,000 pounds to 400,000 pounds. While the estimate of 400,000 pounds may be high, it should be noticed that the most conservative estimate of 250,000 pounds is at least 50,000 pounds higher than last year's production, which production was just about equal to consumption. This means that if the market for the coming year is to be firm in price, some people will have to hold back a minimum of 50,000 pounds of beans. However, this is not regarded as impossible, nor even unlikely, for it is stated that the new crop will all be in strong hands and that there will be no disposition to sell at anything except a profitable price. Any weakness that might develop would naturally arise from the attempt of one or more sellers to sell out their entire holdings of goods at the expense of the other sellers who might continue to quote high prices and lose orders. Such a condition quite ordinarily arises in over-supplied markets and would not be a surprise in this one.

Operators in the vanilla bean market in this country are in various positions with regard to both Bourbon and Mexican beans. Some are committed on no beans and hold none. Others hold large stocks of Bourbons with a cost price far above to-day's market, and some hold commitments on the Mexican beans at prices that may or may not be all right as time moves on.

Measuring vanilla beans for packing

The buyer is in a peculiar position since he does not know whether or not the seller is interested in disposing of his own goods at prices which may bring the seller a loss but which may still be well above to-day's market. On the other hand a seller quoting low prices might not have any commitments for beans and merely be quoting subject to confirmation in an attempt to get an order which he may or may not confirm, or in an attempt to break the market for the other man's goods.

Outlook For Lime Oil

Lime oil continues very scarce and difficult to obtain. It is also reported that the quality of the oil shipped to this market has been poor. The spot price is $8.25 per lb. Stocks in the hands of dealers are of a conservative nature.

Increased production from Trinadad is likely according to Vice Consul Alfredo L. Demorest, who reports that according to the managing director of the Montserrat Co. (Ltd.), Trinidad, there is not scope for any considerable expansion of the lime industry there. However, the possibility of the reduction of the lime output in Dominica, caused by the late hurricane, might be beneficial to Trinidad's growing minor industry. In the last few years there has been considerable planting of trees and various factories erected, some operating on co-operative principles.

In addition to the oil, consecrated juice, raw juice and citrate of lime, are valuable by-products. The extraction of the oil involves hand manipulation somewhat of a technical character. The skilled operator gently rolls the fruit against the dish-like brass or copper plates studded with short blunt spikes with a central tube pocket for reception of the oil, the spikes puncture the tiny cells in the rind releasing the oil which flows into the tube. It is obvious that a large number of limes are required to produce an appreciable quantity of this substance which brings an average price of $12 a pound. This product is known as Ecucille oil or hand oil. The average price paid for distilled oil is from $6.96 to $7.20 a pound. Exports of lime oil from Trinidad for 1929 are 472 pounds, United States, and 325 pounds, United Kingdom, a total of 797 pounds.

Peppermint prices remain at low levels and apparently appear a good buy as the oil is now offered at prices that are lower than have been reached in several years. Buying has been in a small way both on spot and in the primary. This has caused some selling pressure but it is the opinion in most circles that prices are not at a level that will not stand further reductions.

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Acetanilid Down 3c on New Market

While the market for acetanilid was believed to be stabilized at 27 cents per pound following price-cutting competition among the manufacturers, the price was generally reduced about the middle of this month to 24 cents per pound for single barrels due to the entrance into the market of a new maker who quoted this price.

Alcohol Prices Continued

Alcohol prices now in force have been extended over the next three months. This would indicate a firm market for this commodity. Anti-freeze alcohol represents the bulk of the business at this season of the year and it is reported that stocks of this grade in the hands of jobbers is entirely ample for consumer demand.

Distillers have not as yet contracted for the new crop of molasses but as price for raw material will undoubtedly be much lower a price revision to the benefit of buyers is expected. Distillers are also expected to benefit by the reduction in the cost of raw material as they have been operating during the past year on a very small margin of profit due to the high prices at which they had contracted for molasses.

Cod Liver Oil Holds

Cod liver oil remains firm at $27 and $28 per barrel with consumption reported as satisfactory. The new fishing season is now getting under way and it is very gratifying to dealers in that, although stocks on hand will shortly be supplemented by new supplies, the market continues to hold well.

Mercury Goes to $105

Mercury still continues to decline and is now offered at $105 to $107 per flask. This represents a decline during the past month of $1 per flask and places mercury at a new low for the past year. The continued lack of demand has made for an easier undertone even at these prevailing low prices. The lower price on raw material has failed to affect the position of mercurials. Although demand is small, the group is steady in the main.

Tragacanth Quality Off

The market for Turkish gum tragacanth is firm here with no change from the prevailing levels that have been in effect for a considerable length of time without fluctuations.

Arrivals of the new crop continued throughout the first ten days of October, 1930, states assistant commercial attache John T. Harding. Its quality, in spite of promising appearance, is not equal to that of last year. However, due to the lack of superior grades like white and biondo the fact that delivery orders having far preceded the arrival of new goods and also the fact that old consignment stocks in European and American centers are being exhausted, gums of the new crop were immediately absorbed by local exporters. These transactions are reported to have been not very successful as quotations were far below those prevailing now.

A particular increase in prices was noticeable in the better grades which are enjoying the greatest demand at present. Stocks available at the end of October were composed mainly of old goods and inferior grades aggregating 619 sacks. Sales from September 24 to October 23 amounted to 209 sacks.

French-German Bromine Trust

The Deutsche Bromsyndikat, or bromine syndicate, has concluded an agreement with the French producers of bromine products whereby sales of both will hereafter be conducted under a common agreement.

A German cartel embracing German bromine manufacturers has been in existence since before the World War, but in 1930 four new syndicates covering by-products of potash production were reconstituted under a covering trust, the I. G. der Deutschen Kali-industrie G. m. b. H., thereby establishing a uniform sales policy, including production quota allocations, with respect to bromine, rocksalt, magnesium chloride and magnesium sulfate, respectively.

A contract entered into later prolonged the four syndicates from June 30, 1930, to June 30, 1935. During 1929 the production of bromine in Germany was 1,800 metric tons, and exports 233 metric tons, comparing with 184 metric tons exported during 1928.

Bromine is extracted from concentrated Alsatian potash liquors by at least two plants in France, and the output from this source increased to 230 metric tons during 1927 and, according to Chimie et Industrie, could be doubled. The Societe d'Alais Froges et Camargue can produce an additional 120 tons, placing the potential French output at more than 500 metric tons annually. As domestic consumption is around 200 tons a year, the exportable surplus may be as much as 300 tons.

Soviet Iodine?

According to an unconfirmed story in a French trade paper, the Soviet authorities are building plants for the manufacture of iodine from seaweed, and the 1930 production is expected to equal 11,000 kilos. The new method which has been tried in the neighborhood of Archangel, will permit a decrease in the cost price of about 10 rubles per kilo of iodine produced. Moreover, in the same region, subterranean waters containing up to 50 milligrams of iodine per liter have been found, and their exploitation, less expensive than that of the seaweed, will, it is expected, bring the Soviet 1931 iodine production up considerably. (Assistant trade commissioner Earl C. Taylor, Paris.)

Derris Root Facts

The supply of derris received at Singapore is rather irregular. Derris grows in a wild state in Borneo, but it is understood that practically all the supply from that source is contracted for in London. There are about 500 acres under cultivation in the Federated Malay States and 600 acres under cultivation in Johore, one of the Unfederated Malay States.

The price of derris is variable, but is usually rather high owing to a good demand and limited supply. Native sellers have received as much as from $0.24 to $0.30 per pound for the untreated roots, but Singapore buyers can generally purchase the product at a lower figure, varying from $0.10 to $0.12 per pound.

The roots are usually shipped in the rough form, although exporters are seeking some method to reduce bulk shipments without lowering the toxic qualities of the roots.

Bismuth metal has maintained its recent advance with the market reported as being firm at prevailing levels. Movement of the metal is below normal but there is a fair demand for the salts, which, although unchanged as far as price is concerned enters the new year in a firm position.

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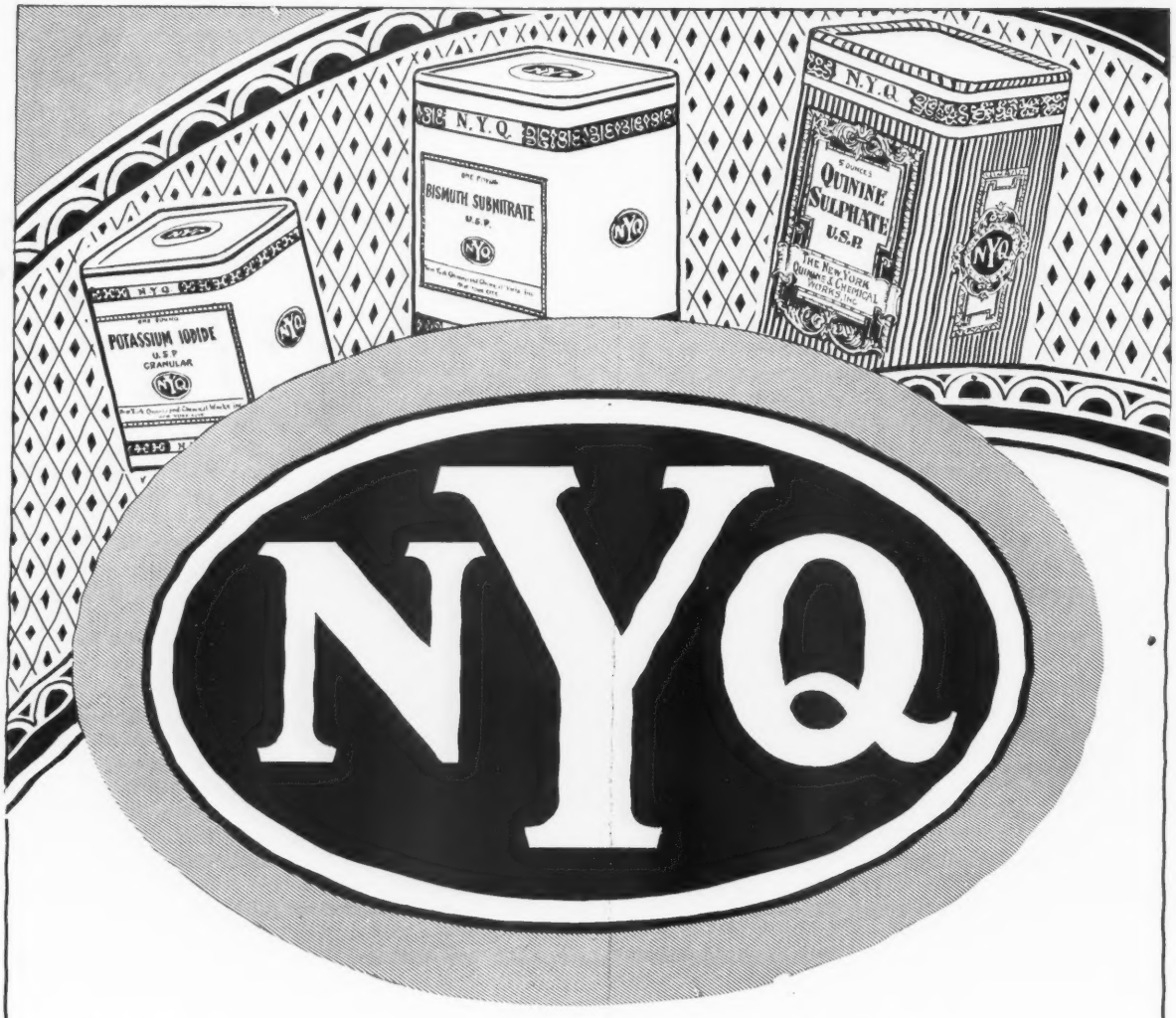

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Bismuth Subcarbonate
Cinchonine
Cinchona Alkaloids
Cinchophen
Codeine Sulphate
Codeine Phosphate
Cinchonidine
Morphine Sulphate
Ethyl Morphine
Iodoform
Glycerophosphates
Opium
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Products sold f. o. b. works are so specified. Imported chemicals are so designated. Resale stocks, when a market factor, are indicated "second hand."

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The range of price given is not "bid and asked," but are prices of different sellers, based on varying grades and/or quantities. Containers named are original packages most commonly sold.

Chemicals

Acetanilid
Hyoscyamine Sulfate

Acetanilid, USP, 200 lb bbls..lb	.24	.25
Acetone, pure 350 lb drs wks..	.12	.14
Acetphenetidin, 225 lb bbls..lb.	1.25	1.30
ACID, Acetylsalicylic, 225 lb bbls.	.85	.90
Agaric, 1 oz vials.....oz	...	3.50
Arsenous, USP, 220 lb bbls lb.	...	.18
Benzoic, USP, 100 lb bbls.lb.	.60	.61
Boric, 300 lb bbls.....lb.	.09½	.10
Cacodylic, 5 lb. bot.....lb.	...	8.00
Camphoric, USP, VIII 1 lb bot.....lb.	4.82	4.82
Carbolic, USP, crys 112 lb tins.....lb.	.17	.18
Cinnamic, 5 lb cans.....lb.	3.25	3.50
Citric, USP, crys 230 lb bbl .....lb.	...	.41
USP, crys imp. 112 lb keg .....lb.	.65	.70
USP, powd 200 lb bbl...lb.	...	.41½
Diethylbarbituric, 1 lb bot lb.	4.00	4.50
Gallic, USP, 150 lb bbls..lb.	...	.74
Glycerophosphoric, 25% 1 lb bot.....lb.	1.40	1.75
Hydriodic, USP, 10% 5 lb bot.....lb.	...	.70
Hydrobromic, USP, 40% 155 lb. cbys.....lb.	...	.55
Hypophosphorous, USP, 30% .....lb.		
5 gal demis.....lb.	...	.85
Lactic, USP, VIII 100 lb cbys lb.....	.53	.59
USP, X 100 lb cbys.....lb.	.57	.59
Phenylcinchonic.....lb.	...	3.25
Phosphoric, USP, Syr 70 lb drs.....lb.	.14	.15
Pyrogallic, crys 5 lb cans..lb.	1.30	1.40
Resublimed, 5 lb cans...lb.	1.60	1.70
Salicylic, USP, 100 lb bbls.lb.	.40	.45
Stearic, double pressed, bags .....lb.	.12½	.13
Triple pressed, bags,....lb.	.14½	.15
Succinic, 100 lb bbls.....lb.	...	1.35
Sulfurous, USP, 6% 100 lb cbys.....lb.	.05	.06
Tannic, USP, fluffy 50 lb bbls. .....lb.	.90	.93
Powd 200 lb bbls.....lb.	.80	.85
Tartaric, USP, 300 lb bbls.lb	.32½	.33½
Aconitine, Alk, crys 1 oz vials .....oz.	...	30.00
Amorphous, 1 oz vials....oz.	...	20.00
Adeps Lanae, hyd 350 lb bbls lb.	.14½	.15
Anhydrous, 350 lb bbls....lb.	.15	.16
Agaricin, 1 oz vis incl.....oz.	...	2.32
ALCOHOL, Benzyl, 5 lb bot lb.	1.25	1.35
Ethyl, USP, 190 pf 50 gal bbls.....gal.	2.69½	2.79½
Pure tax free.....gal.	.61	.69
Grain drums.....gal.	2.69	2.79
Denatured, drums add 7c for bbls.....		
No. 1 spec.....gal.	.39	.47
1 comp.....gal.	.39	.47
No. 5 comp.....gal.	.39	.47
23 a, spec.....gal.	.43	.55
39 b, spec.....gal.	.51½	.61½
40 m, spec .....gal.	.47	.58
Isopropyl refd 98-99% drs .....gal.	.95	1.25
Phenylethyl, 1 lb bot.....lb.	4.30	4.50
Aloin, USP, 100 lb cases....lb.	1.73	1.78
Aluminum Acetotartrate kegs .....lb.	...	1.60
Amidipyrine, 10 lb boxes....lb.	4.25	4.45
AMMONIUM, Acetate 100 lb kegs.....lb.	.38	.40
Benzoate, USP, 1 lb bot...lb.	...	1.27
Borate, 10 lb bot.....lb.	...	.35
Bromide, USP, 450 lb bbls.lb.	.43	.44
Imported, 112 lb boxes..lb.	.48	.50
Carb, USP, lump 100 lb kegs .....lb.	...	.13½
USP, powd 100 lb kegs..lb.	...	.14½
Citrate, 100 lb kegs.....lb.	.90	1.30
Ichthyolate, as to brand..lb.	4.00	4.50
Iodide, USP, 25 lb jars...lb.	...	5.20
Phosphate, dibasic 250 lb bbls .....lb.	.48	.50
Salicylate, USP, 100 lb kegs .....lb.	1.15	1.20
Valerate, USP, 25 lb jars...lb.	2.75	2.90
Amylene Hydrate, 1 lb bot..lb.	...	7.10
Antipyrine, USP, 100 lb cans.lb.	2.25	2.60
Apomorphine Hydrochloride, ¼ oz. vials.....oz.	22.60	22.70
Arecoline Hydrobrom, 1 oz vials .....oz.	7.75	8.75
Aspidospermine Amorphous..oz.	...	15.00
Atropine Alk, USP, 1 oz. vials .....oz.	6.50	7.00
Methyl bromide, 1 oz vials.oz.	...	25.00
Sulfate, 5 oz cans.....oz.	...	2.50
Single ounce.....oz.	...	3.00
Barium Iodide, 5 lb box....lb.	...	5.15
Sulfate, X-ray diagn bbls..lb.	.09½	.10
BAY RUM Porto Rico, 45 gal. bbls.....gal.	.75	.80
Domestic syn. 50 gal bbl..gal.	.70	.75
St. Thomas, 50 gal bbls...gal.	.80	.90
Benzonaphthol, 5 lb boxes...lb.	2.50	2.60
Benzoyl Cholride, 500 lb dr..lb.	1.00	1.05
Benzyl Benzoate, Medicinal FFC.....lb.	1.20	1.40
Chloride Redis, 160 lb cby.lb.	.30	.35
Formate, 1 lb bot.....lb.	3.25	3.50
Succinate, 160 lb cby.....lb.	...	5.25
BISMUTH, metal 100 lb cases .....lb.	...	1.35
Ammon. Citrate, USP, 5 lb cans.....lb.	...	3.25
Betanaphtholate, 5 lb box.lb.	...	2.90
Citrate, USP, 5 lb cans....lb.	...	2.60
Chloride.....lb.	...	3.00
Hydroxide .....lb.	...	2.90
Nitrate, 25 lb jars.....lb	...	1.25
Oxide anhydrous.....lb.	...	3.25
Oxychloride, 25 lb boxes...lb.	...	2.95
Salicylate, 25 lb boxes....lb.	...	1.65
Subcarbonate, USP, 25 lb boxes.....lb.	1.70	1.75
Subcarbonate, X-ray diag 1 lb. bot.....lb.	2.65	2.72
Subgallate, USP, 25 lb boxes .....lb.	1.75	1.80
Subiodide, 5 lb lots.....lb.	...	4.10
Subnitrate, USP, 25 lb jar.lb.	1.35	1.40
Subsalicylate, USP, 25 lb boxes.....lb.	2.55	2.60
Tannate .....lb.	...	2.30
Borax, crys USP, 400 lb bbls.lb.	...	.06
Bromoform, USP, 5 lb bot cases .....lb.	1.65	1.90
Butylchloral Hydrate bot....lb.	4.00	5.00
Cadmium iodide, 10 lb bot...lb.	...	4.55
CAFFEINE Alk, USP, 1.....		
100 lb kegs.....lb.	2.45	2.50
Citrated, 50 lb cans.....lb	2.20	2.45
Hydrobromide, 1 lb bot...lb.	4.80	5.00
Hydrochloride, 1 lb bot...lb	6.05	6.55
Sulfate, 1 lb bot.....lb.	5.40	5.90
Sodium Benzoate, tins....lb.	...	3.05
Salicylate, tins.....lb.	...	2.95
Calcium Bromide, 100 lb cs..lb.	...	.60
Carb, USP, 175 lb bbls....lb.	.05	.06
Glycerophos, 250 lb bbls...lb.	...	1.40
Hypophos, USP, 25 lb cans lb.	.55	.60
Iodide, 5 lb bot.....lb.	...	4.85
Lactate, USP, 500 lb bbls lb.	.45	.50
Lactophosphate Soluble...lb.	...	1.20
Powdered tins.....lb.	...	1.00
Insol, powd tins.....lb.	...	.50
Sulfide, USP, 100 lb drs...lb.	.21½	.24
CAMPHOR, Jap. ref. slabs 100 lb. cases.....lb.	.60	.61
Refined powd.....lb.	.62	.63
½ oz tab, 100 lb cases....lb.	.72	.73
Liniment, bbls.....gal.	2.20	2.30
Monobrom, 100 lb cases...lb.	1.85	1.90
Casein edible, 100 lb kegs...lb.	.45	.55
Charcoal Animal medicinal jars incl.....lb.	...	.50
Charcoal Wood, powd, 100 lb. bbls.....lb.	.06	.07
Chloroform, USP, 50 lb drs...lb.	.25	.27
Chloral Hydrate, USP, 25 lb jars.....lb.	.78	.80
100 lb drums.....lb.	.73	.75
Cholesterin.....oz.	5.50	5.85
Chromium Sulfate Scales, tins .....lb.	.45	.50
Powdered tins.....lb.	.50	.55
Chrysarobin, 50 lb tins....lb.	3.75	4.10
Cinchonine Alk, 100 oz tins.oz.	...	.38
Crystal.....oz.	.43	.46
Sulfate, 100 oz tins.....oz.	...	.25
Cinchonidin Sulfate, 100 oz tins .....oz.	.35	.35
Cincophen, U.S.P. bbls.....lb.	3.25	...
boxes, drms., kegs.....lb.	3.35	3.50
Cocaine Alk, USP, 1 oz vial..oz.	...	11.07
Hydrochloride, USP,.....oz.	...	8.50
CODEINE Alk, 1 oz vials, 10 lots.....oz.	...	11.87
Hydrobromide.....oz.	...	8.92
Hydrochloride.....oz.	...	10.87
Nitrate, oz vl 10 oz lots....oz.	...	9.80
Phosp. oz vl, 10 oz lots....oz.	...	9.42
Salicylate.....oz.	...	8.25
Sulfate, oz vl, 10 oz lots...oz.	...	9.67
Colchicino Alk, USP, 1 oz vl.oz.	...	20.00
Salicylate, 1 oz vls.....oz.	...	35.50
Cream Tartar, USP, 300 lb bbls .....lb.	.25½	.26
Imp. powd. 224 lb bbls....lb.	.24½	.25
Creosote, USP, 42 lb cbys....lb.	.45	.47
Carbonate, 150 lb.....lb.	1.50	1.60
Cresol, USP, 400 lb drums...lb.	...	.20
500 lb drums.....lb.	.14	.17
DIGITALIN Pure, 1 oz vial..oz	15.00	15.50
Dover's Powder, USP, 5 lb tin .....lb.	2.75	2.80
Duboisine Sulfate, 1 oz vl....oz.	35.00	40.00
Emetine Alk, 15 gr vial.....oz.	...	.85
Hydrochloride, USP, 1 oz vl .....oz.	25.00	26.00
15 grain vials.....oz.	2.50	2.70
Epsom Salts, USP, 200 lb bbls .....100 lb.	2.25	2.50
Imp. 100 lb bbls.....100 lb.	2.30	2.35
Ergotin Bonjean, 1 lb jars...lb.	18.50	19.00
Eserine Alk, 1 oz vials.....oz	...	50.00
Salicylate, 1 oz vials.....oz.	...	40.00
Sulfate, USP, VIII 1 oz vials .....oz.	...	40.00
ETHER, USP, 55 lb drums..lb.	...	.12
Anaesthesia, 55 lb drums..lb.	.21	.23
Nitrous, 1 lb bot.....lb.	...	.80
Ethyl Chloride, 200 lb bot...lb.	.22	.24
Ethyl Iodide, 5 lb bot.....lb.	...	6.25
Formaldehyde, USP, 100 lb cbys lc-l wks.....lb.	.07	.07½
Gall Extract.....lb.	.20	.21
GLANDULAR SUBSTANCES		
Duodenal Substance, 1 lb lots	...	5.50
Liver Substance (Hepatic) 1 lb lots.....	...	4.50
Orchic Substance (Testicular)	...	4.75
Ovarian Substance, whole, 1 lb lots.....	...	26.00
Ovarian Residue, 1 lb lots....	...	20.00
Pituitary Substance, whole 1 lb lots.....	...	40.00
Pituitary Substance, Anterior Lobe, 1 lb lots.....	...	27.00
Thyroid, U. S. P., 1 lb lots...	...	4.75
Oxgall Powder, 1 lb lots.....	...	1.35
GLYCERIN, CP, 550 lb drums .....lb.	...	.12½
Gold Chloride, bottles.....oz.	12.00	12.50
Guaiacol, liq. USP. 100 lb cbys.....lb	1.65	1.75
Crystals.....lb	2.25	2.50
Benzoate, 1 lb bottles.....lb.	...	13.00
Carbonate, 5 lb boxes.....lb.	1.70	2.50
Halazone, 5 lb bot.....lb.	2.75	3.25
Hexamethylenetetramine, USP, 100 lb dr.....lb.	.46	.47
Homatropine Hydrobrom USP. .....oz.	...	14.50
5 oz and 1 oz vials.....oz.	...	13.50
Hydrastine Alk, USP, 1 oz vial .....oz.	20.50	21.00
Hydrochlide, USP, 1 oz vials .....oz.	20.50	21.00
Sulfate, 1 oz vial.....oz.		
Hydrastinine Hydrochloride, USP, 15 gr vials.....oz.	22.50	23.00
Hydrogen Peroxide, USP, soln 375 lb bbls.....lb.	...	40.00
Hyoscine Hydrobrom, USP, 1 oz vials.....oz.	.03½	.04½
5 oz, 1 oz vials....oz.	13.07	35.00
Hyoscyamine Alk, crystals, 1 oz vials.....oz.	...	13.57
Amorphous, 1 oz vial...oz.	...	25.07
Hydrobromide, USP, 1 oz vial .....oz.	...	75.07
Sulfate, 1 oz vial.....oz.	...	25.00
	...	25.07

R. W. GREEFF & CO., Inc.
10 East 40th Street New York

What Viscosity Means!

Naturally, you know,

But what does it mean in connection with **Petrolatum Liquidum U. S. P., a Medicinal White Mineral Oil ?**

Medicinal White Mineral Oils were originally produced only from Russian Crude Oil. As usual with oils made of the same crude, the higher the Viscosity, then the higher will be the Specific Gravity. Therefore, formerly it was sufficient to classify and sell Medicinal White Mineral Oils on the basis of the Specific Gravity; and of two such oils, the one with the highest Specific Gravity was the better, provided both oils were equally pure. This method, however, does not hold good when comparing oils of different origin, as then the Specific Gravity figure, as a valuation of the oil as a lubricant for either internal or external purposes, ceases to apply; at least such comparisons are likely to lead to serious mistakes.

ALBINOL, Genuine Russian White Medicinal Oil (Petrolatum Liquidum U. S. P.) refined from Russian Oil has a Saybolt Viscosity of about 325" at 100°F and a Specific Gravity of about .885. White Medicinal Oils of different origin have, for example, a Specific Gravity of .890 and higher, but a Saybolt Viscosity of only 300" or less at 100°F. It therefore results that if a different base crude oil is used for the manufacture of Petrolatum Liquidum U. S. P., it is incorrect to judge the value of an oil by the Specific Gravity. It is the **Viscosity** which determines the value of a lubricant; therefore the basis **must** be the Viscosity, and the oil with the highest Viscosity is the most valuable.

Schliemann Companies, Inc.
53 Park Place, New York, N. Y.

REFINERY IN HAMBURG, GERMANY

Chemicals

Hypoquinone, 100 ib kegs...lb.	...	1.20
ICHTHYOL, tins.....lb.	4.00	4.25
Iodide Arsenous, 5 lb bot...lb.	...	5.20
Arsenous-Mercuric soln, 5 lb bot.....qt	...	.26
Iodine, crude, 200 lb kegs...lb.	4.35	4.35
Resublimed, 10 lb tars....lb.	4.65	4.70
Tincture demis.....gal.	...	4.85
Iodoform, powd 10 lb bot...lb.	...	6.50
Iron & Ammonium Citrate, USP, 50 lb cans.....lb.	.65	.66
Chloride, USP, lump 400 lb bbls.....lb.	.06	.08
Citrate, USP, VIII 25 lb can .....lb.	.94	1.01
Hypophosphite, 5 lb cans..lb.	1.55	1.65
Iodide, 1 lb bottles.....lb.	...	4.28
Phosphate, USP, 50 lb cans .....lb.	...	.69
& Potas Oxalate, 250 lb bbl .....lb.	...	.45
Pyrophosphate, USP, 50 lb .....lb.	.74	.80
& Sod Oxalate, 24 lb box...lb.	...	.30
Sulfate, USP, crys bbls....lb.	.04	.04½
Ferrous dried bbls.....lb.	...	.08
Valerate, tins.....lb.	2.75	3.00
Jalap Resin, USP lumps, 5 lb tins.....lb.	...	4.00
Powdered, tins.....lb.	...	4.65
Lead Acetate, USP, 100 lb kegs .....lb.	.16½	.19½
Iodide, USP, VIII 5 lb bot.lb.	3.20	3.40
Lecithin, 5 oz jars.....oz.	1.00	1.30
Licorice Ext Mass, cases....lb.	.19	.20
Compound powder, bbls...lb.	.11	.13
LITHIUM CARBONATE, 250 lb bbls.....lb.	1.35	1.45
Citrate, USP, 100 lb kegs..lb.	...	1.70
Iodide, 5 lb bottles.....lb.	...	5.65
Lobeline Sulfate, ¼ oz vial...oz.	...	8.75
Magnesium Carbonate, USP, 100 lb bbls.....lb.	.08	.09
English, oz blocks.....oz.	.16	.18
Glycerophosphate, 5 lb tins .....lb	3.20	3.25
Hypophosphite, 5 lb cans..lb.	1.15	1.20
Salicylate, 100 lb kegs.....lb	...	1.10
Stearate, bbls.....lb.	.24	.26
Manganese Glycerophosphate, 5 lb tins.....lb.	2.90	3.00
Hypophosphite, USP, VIII 5 lb cans.....lb.	1.35	1.40
Iodide, 1 lb bottles.....lb.	6.40	6.65
MENTHOL, USP, 60 lb cases .....lb.	3.85	4.00
Synthetic, cases.....lb.	3.00	3.25
Mercury Metal, 75 lb flasks...fl.	1.05	1.07
Bichloride, crys 25 lb box..lb.	...	1.70
Gran powd, 100 lb kegs..lb.	...	1.60
Bisulfate, 25 lb boxes.....lb.	...	1.62
Blue Mass, 25 lb boxes....lb.	...	1.03
Powd, 25 lb boxes.....lb.	...	1.04
Blue Ointment, USP, 50%, 25 lb cans.....lb.	...	1.29
Mild 30%, 25 lb cans....lb.	...	.92
33 1/3% mercury.....lb.	...	.94
Calomel, 50 lb boxes.....lb.	...	2.00
English.....lb.	2.75	2.80
Iodide, green, 25 lb jars....lb.	...	4.80
Red, USP, 25 lb jars...lb.	...	4.89
Yellow, USP, VIII, 25 lb jars.....lb.	4.80	4.80
Red precip, USP, 25 lb boxes .....lb.	...	2.12
Powd., USP, 25 lb boxes.lb.	2.17	2.17
White precip, USP, 25 lb boxes.....lb.	...	2.15
Powd., USP, 25 lb boxes.lb.	...	2.20
Salicylate, 25 lb bot.....lb.	...	2.32
With chalk, USP, 25 lb boxes .....lb.	...	.93
Methanol, Pure 1c-1 drs....gal	...	.44
Methyl Salicylate, USP, 50 lb cans.....lb.	.40	.42
Methylene Blue, USP, med 5 lb cans.....lb	2.00	2.05
Milk powd, 150 lb bbls.....lb.	.09	.12
MORPHINE Alk, 5 oz tin...oz.	10.90	10.95
Acetate, 5 oz tins.....oz.	8.75	8.80
Hydrobromide, 5 oz tins, 10 oz lots.....oz.	8.75	8.80
Hydrochloride, 5 oz tins, 10 oz lots.....oz.	8.75	8.80
Ethyl Hydrochloride, 5 oz tins 10 oz lots.....oz.	...	10.85
Sulfate, 5 oz tins, 10 oz lots .....oz.	8.85	9.00
Naphthalene Flake, 175 lb bbls wks.....lb.	.04½	.05
Balls, 250 lb bbls wks.....lb.	.05½	.06
Oxgall, Purified, 5 lb bot....lb.	1.75	2.50
USP, 5 lb bot.....lb.	2.00	2.50
Oxyquinoline Sulfate, tins...lb.	8.50	9.25
Pancreatin, USP, 100 lb....lb.	...	1.90
Paraffin, refd, 200 lb cs slabs 118 -120 deg MP.....lb.	.08	.09
128-132 deg MP.....lb.	.07½	.07¾
Para-Aldehyde, USP, 100 gal drums.....lb.	.67	.77
Pepsin, USP, 100 lbs. 1:3000.lb.	...	2.25
100 lbs. 1:6000.....lb.	...	4.00
100 lbs. 1:10000.....lb.	...	6.50
Peptone, powd, 5 lb bot.....lb.	...	...
PHENOLPHTHALEIN, USP, 100 lb drums.....lb.	1.00	1.10
5 lb cans 100 lb lots..lb.	1.13	1.20
Pilocarpine Hydrochloride, USP, 1 oz vials 25 oz lots .....oz.	...	3.25
Nitrate, 25 oz lots.....oz.	...	3.25
Single ounce.....oz.	...	3.50
Alkaloid, 15 gr vials.....vl.	...	.75
Piperazine Hydrate, 1 lb bot..lb.	...	15.00
Piperadine, 25 oz bottles....lb.	...	8.00
Popodhyllin 5 lb bottles.....lb.	4.35	4.50
Potassium Acetate, USP, 100 lb kegs.....lb.	.29	.30
Bicarb, USP, crys 320 lb bbls .....lb.	.09½	.10
Bromide, USP, crys 100 lb cs .....lb.	.37	.38
Citrate, USP, 50 lb bbl....lb.	.49½	.50
Guaiacol Sulfonate.....lb.	1.95	2.25
Potassium Hypophosphite, 10 lb. cans.....lb.	.75	.80
Iodide, USP, 100 lb cases..lb.	3.50	3.55
Lactophosphate, 4 oz bot..lb.	...	.90
Permangan, USP, crys, 100 lb drs wks.....lb.	.15	.15½
Phosphate dibasic pure, kegs .....lb.	...	.49
Salicylate, 25 lb cans.....lb.	...	1.18
Sulfate, USP, VIII, 100 lb kegs.....lb.	.13	.15
Sulfocyanide, CP 15 lb jars lb.	...	.50
Tartrate, CP, tins.....lb.	...	.65
Pyrogallol, USP, see Acid Pyrogallic.....	...	...
Quinidine Alk, 100 oz tins...oz.	.70	.75
Sulfate, 100 oz tins.....oz.	...	.50
QUININE SULFATE, USP, 100 oz tins.....oz.	...	.40
1 oz tins, 100 oz lots....oz.	...	.47
Dutch, 100 oz tins.....oz.	...	.40
Java, 100 oz. tins.....oz.	...	.40
Japanese 100 oz tins.....oz.	...	.40
Acetate.....oz.	...	.74
Arsenate.....oz.	...	.76
Benzoate.....oz.	...	.74
Bisulfate, USP.....oz.	...	.40
Resale.....oz.	...	.39
Citrate.....oz.	...	.51
Dicarbonate, 1 oz tins....oz.	...	2.56
Dihydrobromide.....oz.	...	.54
Dihydrochloride, USP....oz.	...	.54
Ethyl Carbonate, 16 oz tins .....oz.	...	.70
Ferrocyanide.....oz.	...	.74
Formate.....oz.	...	.73
Glycerophosphate.....oz.	...	.72
Hydrobromide, USP.....oz.	...	.50
Hydrochlorosulfate.....oz.	...	.50
Hydrochloride & Urea, USP .....oz.	...	.74
Hypophosphite.....oz.	...	.70
Lactate.....oz.	...	.66
Phenolsulfonate.....oz.	...	.78
Phosphate.....oz.	...	.62
Salicylate, USP.....oz.	...	.52
Tannate, USP.....oz.	...	.41
Tartrate.....oz.	...	.74
Valerate.....oz.	...	.78
& Urea Hydrochloride, USP .....oz.	...	.88
Rennet, N. F. 5 lb 1:25,000...lb.	2.95	3.50
Resorcinol, USP, 25 lb cans..lb.	1.82	1.87
Rochelle Salt, USP, 225 lb bbl .....lb.	.19	.19½
Imp. USP, 300 lb bbls.....lb.	...	.23
Rock Sugar, 5 lb boxes.....lb.	...	.15
Saccharin, USP, 10 lb cans...lb.	1.70	1.80
USP, Soluble, 10 lb cans...lb.	1.75	1.85
Salicin, USP.....lb.	...	12.50
SALOL, USP, 100 lb drums..lb.	...	.90
Saltpetre, powd, bbls wks....lb.	.06½	.08½
Santonin, USP, bulk.....lb.	123.00	133.00
Saponin, refined.....lb.	1.30	1.50
Siedlitz Mixture, 250 lb bb..lb.	...	.17½
Silver Metal, American.....oz.	...	.42½
Iodide, 16 oz lots.....oz.	...	.69
Nitrate, 100 oz bottles....oz.	.32½	.34½
Nucleinate, bulk.....oz.	...	.37
Proteinate.....oz.	.39	.41
SODIUM BENZOATE, USP, 100 lb bbls.....lb.	.44	.48
Bromide, USP, 100 lb kegs.lb.	.37	.38
Cacodylate, USP, 25 lb bot .....lb.	4.75	5.90
Citrate, USP, X 50 lb kegs.lb.	.41½	.43
USP VIII, 50 lb kegs....lb.	.36½	.38
Glycerophosphate, USP, crys 25 lb cans.....lb.	1.40	1.55
Powder, 25 lb tins.....lb.	1.45	1.60
Soln, USP, 25 lb tins...lb.	1.05	.120
Hypophosphite, USP, 25 lb cans.....lb.	.65	.70
Iodide, USP, 25 lb jars...lb.	4.25	4.30
Phosphate (Mono-Sodium), 100 lb kegs.....lb.	.30	.31
Di-Sodium USP, granular, 275 lb bbls.....lb.	.07½	.08
Pyrophosphate, 100 lb kegs .....lb.	...	.29
Salicylate, 100 lb kegs....lb.	...	.47
Sulfocarbolate, USP, 100 lb kegs.....lb.	...	.25
Sulfocyanate, CP crys, jars included.....lb.	...	.60
Spartein Sulfate, USP, 25 oz bulk.....oz.	.65	.70
Single oz vial.....oz.	.77	.90
STRONTIUM BROMIDE USP, 50 lb kegs.....lb.	.46	.47
Carb, 100 lb kegs wks....lb.	...	.20
Iodide, USP, 25 lb jars....lb.	...	4.00
Lactate, kegs.....lb.	.90	1.10
Nitrate, 600 lb bbls NY...lb.	.08	.08½
Imp. bbls NY.....lb.	.08	.08½
Salicylate, USP, 100 lb keg lb.	...	1.10
Strophanthin, USP, 1 oz vial.oz.	19.00	19.00
Crystals.....lb.	75.00	75.00
Strychnine Alk, USP crys, 100 oz tins.....oz.	...	.61
Powdered.....oz.	...	.51
Acetate.....oz.	...	.65
Arsenate, 25 oz cans.....oz.	...	.65
Glycerophosphite, USP...oz.	...	.65
Hydrobromide.....oz.	...	.65
Hydrochloride.....oz.	...	.65
Hypophosphite.....oz.	...	.75
Nitrate, USP.....oz.	.55	.72
Phosphate.....oz.	...	.65
Sulfate, USP, powd .....oz.	...	.42
Sugar, refined, 275 lb bbl 100 lb	5.80	5.90
Milk, USP, 200 lb bbls...lb.	.18	.20
Sulfonethylmethane, USP, 10 lb boxes.....lb.	3.85	4.05
Sulonmethane, USP, 10 lb box .....lb.	2.65	3.85
Sulfur flwrs. washed, USP, 125 lb bbl.....lb.	...	.06
Iodide, USP, VIII, 5 lb bot lb.	...	4.55
TARTAR EMETIC, USP, 300 lb bbls.....lb.	.33	.35
Terebene, tins.....lb.	...	.85
Terpin Hydrate, USP, 100 lb kegs.....lb.	.39	.41
Theobromine Alk, 5 lb cans..lb.	1.90	2.25
Sod. Salicylate, 1 lb bot...lb.	...	2.10
Sod. Benzoate, 1 oz vials..oz.	...	1.00
Thymol, USP, 25 lb tins.....lb.	2.00	2.25
Iodide kegs.....lb.	6.00	7.00
Veratrine Alkaloid.....oz.	...	2.25
Sulfate, 1 oz vials.....oz.	...	2.25
Witch Hazel Ext., 50 gal bbl .....gal.	.60	.80
Zinc Carb, USP, 100 lb keg..lb.	.28	.31
Chloride, USP, 25 jars ex..lb.	.24	.29
Iodide, 5 lb bottles.....lb.	...	5.22
Oxide, USP, 100 lb bbls...lb.	.13	.14
Stearate, USP, 50 lb bbl..lb.	.23	.25
Sulfate, USP, 100 lb bbl..lb.	.08	.09
Sulfocarbolate, 100 lb kegs..lb.	.23	.26

Miscellaneous

Castor Oil, odorless, bbls.....lb.	...	.13½
Chalk drop, 175 lb. bbls.....lb.	...	.03½
Precip. light, 250 lb. cask..lb.	...	.04½
Heavy 540 lb. casks.....lb.	...	.02½
Bulk.....ton	...	5.00
English light, bags.....lb.	...	.04½
English light, casks.....lb.	.05½	...
Cocoa Butter, 12 lb. box...lb.	.42	.45
Cod Liver Oil Nor. 30 gal. bbls	27.00	28.00
Newfoundland.....bbl.	...	31.00
Collodion U. S. P. 30 lb. dr...lb.	...	.23
Corn Syrup 42° 50 gal. bbl. .....100 lb.	3.91	4.16
Gelatin, USP, Silver 100 lb. cases.....lb.	.55	.60
Pure Food, 50 lb. bbl.....lb.	.53	.55
Glucose, (grape sugar) dry 70° bags c-l NY.....100 lb.	3.14	3.24
Haarlem Oil, bot 6 gross cases .....gross	...	3.75
Imported, 5 gr. cs.....gross	...	3.50
Mineral Oil White, 50 gal. bbls. 80-85 vis.....gal.	.50	.55
85-90 vis.....gal.	.65	.70
125-130 vis.....gal.	.75	.85
290 vis.....gal.	.90	1.10
Russian 110-115 vis.....gal.	.69	.79
145-155 vis.....gal.	.72	.82
320-330 vis.....gal.	.80	.90
Olive Oil, Edible bbls.....gal.	2.00	2.40
Paraffin Wax, fully refined, slabs 125 @ 127 A.M.P. bags lb.	...	.03
130 @ 132 A.M.P. bags lb.	...	.04½
135 @ 137 A.M.P bags lb.	...	.05
Petrolatum, Lily White, USP, 400 lb. bbl.....lb.	.08	.09
Snow White USP, 400 lb. bbls.....lb.	.09½	.10
Rice Starch, 140 lb bags....lb.	.09	.10
Soap Castile, bars 50 lb. box..lb.	...	.25
Powd. USP 250 lb. bbls...lb.	...	.20
Green, USP, 450 lb. bbls...lb.	.07½	.07½
Neutral, powd. bbls.....lb.	.17	.18
Talc, Italian, 220 lb bags...ton.	60.00	80.00
French, 220 lb bags.....ton.	40.00	45.00

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Opt. Rotation $_{AD}$	-4° to -16°
Alcohol as Santalol	90% to 95%
Solubility in 70% Al.	1 in 3 to 1 in 6 Vols.

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11 Moore Street New York, N. Y.

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Aromatics and Essential Oils

Acetophenene, CP, 1 lb bot..lb.	3.50	3.65
Aldehyde, C 8 (Otcyl) 1 lb bot ..lb.	...	50.00
C 7, 1 lb bot..lb.	4.50	5.50
C 9 (Nonyl), 1 lb bot ....lb.	...	40.00
C 10 (Decyl), 1 lb bot....lb.	...	48.00
C 14, 1 lb bot..lb.	...	32.00
C 16, 1 lb bot..lb.	...	24.00
AMYL ACETATE, pure, 25 lb cans..lb.	.43	.50
Butyrate, 1 lb bot..lb.	1.25	1.50
Butyrate, 5 lb bot..lb.	...	1.00
Cinnamate, 5 lb bot..lb.	9.50	9.75
Formate, 1 lb bot..lb.	...	1.90
Formate, 5 lb bot..lb.	...	1.75
Phenyl Acetate, 1 lb bot..lb.	4.50	5.00
Salicylate, 100 lb cbys....lb.	1.25	1.30
Imported..lb.	2.25	2.50
Anethol, 2 lb bot..lb.	1.90	2.15
Anisic Aldehyde, 1 lb bot....lb.	4.00	4.50
Benzaldehyde, USP, 40 lb cbys ..lb.	...	...
50 lb cbys..lb.	1.45	1.55
FFC, 40 lb cbys..lb.	1.35	1.45
Benzoic Ether, see Ethyl Benzoate		
Benzophenone, 1 lb bot.....lb.	4.50	5.00
Benzyl Acetate, 100 lb cbys..lb.	.90	1.10
Alcohol, 5 lb bot..lb.	1.20	1.30
BENZYL BENZOATE.....	1.15	1.20
Medicinal, FFC..lb.	...	1.40
Buytrate, CP, 1 lb bot....lb.	9.25	9.50
Benzyl Cinnamate, 1¼ bot. lb.	7.00	7.25
Formate, 1 lb bot..lb.	3.25	3.35
Propionate, 1 lb bot..lb.	3.60	3.75
Succinate, 1 lb bot..lb.	5.25	5.50
Valerate, 5 lb bot..lb.	3.00	3.25
Borneol, 1 lb bot..lb.	2.50	3.00
Bornyl Acetate, 1 lb bot....lb.	2.25	3.35
Bromstyrol, 25 lb cases....lb.	4.50	4.65
Butyl Anthranilate dom, 1 lb bot..lb.		
Carvol, 5 lb bot..lb.	3.60	4.00
Cinnamic Acid, 5 lb cans....lb.	3.25	3.50
Alcohol liquid, 1 lb bot...lb.	3.00	3.10
Crystallizable..lb.	7.00	8.00
Aldehyde..lb.	2.25	2.50
Imported, 1 lb bot....lb.	7.75	9.00
Citral, 25 lb cans..lb.	2.65	4.00
Citronellal 1 lb bot..lb.	2.00	4.00
Citronelyl Acetate, 1 lb bot..lb.	6.00	6.25
Coumarin, 25 lb cans..lb.	3.50	4.00
DECYL ALCOHOL.....lb.	25.00	28.00
Diethyl Phthlate see Chemicals		
Diphenyloxide, 25 lb tins....lb.	1.00	1.15
Diphenyl Methane..lb.	1.75	2.00
Duodecyl Alcohol..lb.	20.00	22.00
Ethyl Acetate, pure, 5 lb bot..lb.	.45	.50
Benzoate, 5 lb bot..lb.	1.50	1.75
Ethyl Butyrate, 5 lb bot....lb.	1.80	2.00
Caproate, 1 lb bot..lb.	3.25	3.50
Cinnamate, 1 lb bot..lb.	4.00	4.50
Formate, 5 lb bot..lb.	1.00	1.25
Methyl Paracresol, 1 lb bot ..lb.	3.25	3.50
Phenyl Acetate, 5 lb bot..lb.	3.75	4.00
Valerate, 5 lb bot..lb.	...	3.75
Salicylate, 5 lb bot..lb.	1.95	2.00
Eucalyptol, USP, 50 lb cans..lb.	.85	.90
Eugenol, USP, 25 lb cans....lb.	3.50	4.00
Geraniol, 50 lb cases..lb.	2.50	3.10
Geranyl Acetate, 1 lb bot....lb.	3.00	3.05
Butyrate, 1 lb bot..lb.	13.00	13.50
Formate, 1 lb bot..lb.	12.00	12.50
Glyco Ester..lb.	1.00	1.10
Heliotropin, 100-10 lbs..lb.	1.65	1.75
Imported..lb.	1.95	2.05
Hydroxycitronellal, 1 lb....lb.	5.50	7.50
Indol, CP, 1 oz bot..oz.	2.90	3.00
IONONE, 1 lb bot 100%...lb.	5.00	6.00
Alpha..lb.	4.80	5.00
Beta..lb.	5.70	5.75
Methyl..lb.	5.75	6.00
Iso Borneol..lb.	2.25	2.35
Iso Bornyl Acetate..lb.	3.00	3.20
Iso-Butyl Benzoate, 5 lb bot..lb.	2.75	3.00
Iso-Eugenol, 1 lb bot..lb.	3.75	3.80
Iso-Safrol, 1 lb bot imp....lb.	1.75	1.85
Domestic, 5 lb bot..lb.	3.50	3.75
Linalol from Bois de Rose, 5 lb bot..lb.	3.00	5.00
Lynalyl Acetate, 1 lb bot....lb.	3.50	4.50
Benzoate, 1 lb bot..lb.	13.00	14.00
Formate, 5 lb bot..lb.	10.50	12.00
METHYL ACETOPHENONE ..lb.	3.35	3.50
Anthranilate, 1 lb bot....lb.	2.45	2.50
Imported..lb.	2.70	2.75
Anthranilic Acid..lb.	11.75	12.00
Benzoate, 5 lb bot imp....lb.	1.75	1.85
Domestic, 5 lb bot..lb.	1.75	2.00
Cinnamate, 1 lb bot..lb.	3.75	4.25
Heptenone, 1 lb bot..lb	6.50	7.00
Paracresol, 1 lb bot..lb	4.50	8.00
Phenylacetate, 5 lb bot...lb	3.75	4.00
Salicylate, USP, 500 lb dr .lb.	...	.40
50 lb cases..lb.	...	.42
Mirbane rect, 1,000 lb drs...lb.	.12	.13
Musk Ambrette 1 lb cans...lb	7.25	7.50
Ketone 1 lb cans..lb	8.00	8.15
Xylene 5 lb cans..lb.	2.25	2.35
Nerolin 1 lb cans..lb.	1.35	1.40
Octyl Alcohol 1 lb bot..lb.	30.00	32.00
Oenanthic Ether lb bot..lb.	1.90	2.00
Oleoresin Aspidum..... USP, bot and tins..lb.	...	1.25
Capsicum, USP, bot and tins ..lb.	3.50	4.25
Cubeb, USP, bot and tins..lb.	3.00	3.25
Ginger bot and tins..lb.	2.85	3.35
Malefern see Aspidum.....		
Orris, bot & tins..lb.	15.00	18.00
Pepper, black, USP, bot & tin..lb.	...	9.50
Vanilla, bot & tins..lb.	8.00	8.75
Paracresol Methyl Ether....lb.	6.50	6.75
Paracresyl Acetate..lb.	5.50	5.75
Para Cymene Refd 110 gal dr ..gal.	2.25	2.50
PHENYLACETALDEHYDE 50% 1 lb bot..lb.	4.75	5.00
Imported 50%..lb.	4.75	5.00
100%..lb.	8.00	8.25
Phenylacetic Acid 1 lb bot..lb.	3.50	3.75
Phenyl Diacetate 1 oz bot...oz.	3.00	3.25
1 lb bot..lb.	8.00	10.00
Imported..lb.	7.00	7.75
Phenylethyl Alcohol 1 lb bot.lb.	4.50	4.75
Phenyl Ethyl Acetate..lb.	8.25	8.75
Butyrate 1 lb bot..lb.	15.00	16.00
Formate, 1 lb bot..lb.	19.00	21.00
Propionate, 1 lb bot..lb.	16.00	18.00
Valerate, 1 lb bot..lb.	19.00	20.00
Phenylpropylalcohol, 1 lb bot ..lb.	12.00	12.50
Rhodinol, 1 lb bot..lb	6.25	20.00
Saffrol, drums..lb.	.30	.32
60 lb cans..lb.	.32	.34
Skatol, 1 oz bot..lb.	4.50	7.00
Terpinyl Acetate, 25 lb cans..lb.	.90	.95
Imported, 25 lb cans.....	.85	.90
TERPINEOL, CP, 1000 lb drs ..lb.	.27	.29
50 lb cans..lb.	.31	.33
Absolute, 25 lb cans..lb.	.48	.50
Imported, 25 lb cans...lb.	.58	.60
Valerianic Ether see Ethyl Valerate.....		
Vanillin (Clove Oil), USP..lb.	5.50	5.75
(Guaiacol) USP.....lb.	5.00	5.25

Essential Oils

Almond Bitter, USP, 5 lb bot lb.	2.75	2.85
Bitter, ffPA, 5 lb bot.....lb.	2.85	2.95
Sweet, 56 lb cans..lb.	.48	.51
Almond Meal, 25 lb cans....lb.	.20	.21
Amber crude, 25 lb tins.....lb.	.20	.22
Rectified, 25 lb tins.....lb.	.52	.55
Amber liquid, 400 lb drs.....lb.	2.20	2.30
Ambergris, Black, boxes.....oz.	14.00	15.00
Gray boxes..oz.	32.00	36.00
Angelica Root, 1 lb bot.....lb.	25.00	35.00
Anise Tech, 400 lb drums...lb.	.60	.62
USP, 60 lb cans..lb.	.62	.64
Apricot Kernel, 50 lb cans...lb.	.28	.29
Bay, 25 lb tins N. F. V., 50.55% Phenol..lb.	2.10	2.30
Terpeneless..lb.	5.80	6.00
BERGAMOT, 25 lb coppers.lb.	2.40	2.50
Terpeneless..lb.	14.00	18.00
Artificial, 25 lb cans.....lb.	2.00	2.75
Birch, Sweet, Northern, 25 lb tins..lb.	2.25	2.75
Southern, 25 lb tins..lb.	...	1.95
Birch Tar, rect., 5 lb bot.....lb.	.50	.55
Crude, 50 lb tins..lb.	.12	.13
Bois de Rose, tins..... Brazillian..lb.	.80	.90
Cayenne, tins..lb.	1.45	1.50
Cade, 25 lb cans..lb.	.25	.27
Cajuput, native, 50 lb tins..lb.	.60	.65
Calamus, 5 lb bot..lb.	2.75	3.00
Camphor Sassa, 1000 lb drs..lb.	.21	.22
White, 400 lb drs..lb.	.19	.20
Cans, 50 lbs..lb.	.23	.24
CANANGA, Native 25 lb tins ..lb.	2.00	2.15
Rectified, 25 lb tins.....lb.	2.30	2.40
Caraway, USP..lb.	1.50	1.65
Cardamon, NF, 1 lb bot.....lb.	24.00	37.00
Cascarilla, USP, 1 lb bot.....lb.	65.00	80.00
Cassia, ... Redist, USP, 50 lb cans...lb.	1.15	1.20
Cedar Leaf, 50 lb tins.....lb.	1.05	1.10
Cedar Wood, light, 1000 lb drs ..lb.	.40	.42
Celery, 1 lb bot..lb.	...	7.50
Chaulmoogra, USP 80 lb cases lb.	...	1.50
Cinnamon Ceylon, 1 lb bot...lb.	9.50	13.00
Leaf, 5 lb bot..lb.	1.85	1.95
CITRONELLA Ceylon, 1000 lb drs..lb.	.44	.46
50 lb tins..lb.	.47	.49
Java, 400 lb drs..lb.	.55	.60
50 lb tins..lb.	.57	.61
Civet, Abyssin, horns.....oz.	2.10	3.00
Cloves, USP, 50 lb cans.....lb.	1.65	1.70
6 lb bot..lb.	2.20	2.25
Copaiba..lb.	...	.50
Coriander, USP, 10 lb bots..lb.	5.25	5.75
Croton USP, 25 lb tins.....lb.	5.50	6.00
Cubebs, USP, 5 lb bot.....lb.	2.90	3.00
Cumin, 1 lb bot..lb.	7.00	7.50
Dill, 25 lb cans..lb.	3.75	5.25
Erigeron, 20 lb tins..lb.	1.40	1.50
EUCALYPTUS Austl, USP, 56 lb cans, cases..lb.	.40	.41
500 lb drs..lb.	.37	.38
Fennel, USP, 25 lb tins.....lb.	.95	1.10
Geranium African, 25 lb tins..lb.	3.90	4.00
Bourbon, 28 lb tins.....lb.	3.60	3.85
Turkish, 28 lb tins.....lb.	3.10	3.25
Ginger, 1 lb bot..lb.	5.35	5.60
Gingergrass, 28 lb tins.....lb.	2.50	2.70
Hemlock, 25 lb tins.....lb.	1.05	1.10
Iuniper Berries, USP, 25 lb tins ..lb.	1.80	1.85
Wood, 50 lb tins.....lb.	.50	.60
Labdanum, 5 lb bot.....lb.	5.50	6.00
LAVENDER, USP, 28 lb tins ..lb	2.10	2.25
Spike Spanish, 50 lb cans..lb.	.80	.90
Lemon Ital, 25 lb cans.....lb.	1.10	1.35
California 35 lb cbys....lb.	.80	1.00
Lemongrass, native, 50 lb cans ..lb.	.72	.74
Limes, expressed, 25 lb tins..lb.	14.00	17.00
Distilled, 25 lb tins.....lb.	8.00	8.50
Linaloe Mex., 70 lb cases....lb.	...	1.75
Mace, distilled, 50 lb tins....lb	1.35	1.40
Mandarin, 25 lb cases.....lb.	4.75	5.25
Musk Pods Cabardine, tins..lb.	...	...
Musk Tonquin, tins, Pods...oz.	24.00	26.00
Grains Cabardine, tins....oz.	...	...
Tonquin, tins, Grained..oz.	28.00	34.00
MUSTARD, USP, 1 lb bots.lb.	9.50	10.00
Artif, USP, 5 lb bot.....lb.	1.60	1.70
Neroli Bigarade, ½ & ¼ & 1 lb bot ..lb.	125.00	250.00
Petale, 1 lb bot.....lb.	160.00	170.00
Artificial, 1 lb bot.....lb.	5.00	15.00
Nutmeg, USP, 50 lb tins....lb.	1.15	1.20
ORANGE BITTER, 25 lb tins ..lb	2.60	2.85
Sweet W Ind, 25 lb tins..lb	2.20	2.45
Italian, 25 lb cop.....lb.	2.40	2.50
Orange American, Cold pressed 25 lb tins..lb.	2.65	2.80
Distilled, 25 lb tins.....lb.	1.10	1.15
Spanish, 25 lb tins.....lb.	2.60	2.60
Oil Orris, concrete.....oz.	6.00	6.25
Origanum, 50 lb cans tech...lb.	.25	.27
Parsley, 1 lb bot..lb.	9.00	9.25
Patchouli, 5 lb bot.....lb.	5.75	6.00
Pennyroyal, dom, 25 lb tins..lb.	1.90	2.10
Imported, 25 lb tins.....lb.	...	1.15
Pepper Black lb.....	10.00	...
Peppermint, nat. 60 lb cases lb.	2.05	2.35
Redis, USP, 60 lb cs.....lb.	2.30	2.55
Petit Grain S A., 25 lb tins..lb.	1.25	1.35
French, 1 lb bot.....lb.	6.25	6.50
Italian, 25 lb tins.....lb.	2.20	2.30
Pimento, 25 lb tins.....lb.	2.10	2.25
Pineedle Siberian, cans.....lb.	.70	.75
Pinus, Sylvestris, 25 lb tins..lb.	1.30	2.00
Pumilio, USP, 25 lb tins...lb.	1.90	1.95
Rose Fr, 8, 16, & 32 oz pkgs..lb.	14.00	17.00
Bulg, 8, 10 & 32 oz pkgs...lb.	14.00	16.00
Rosemary, USP, 27½ lb tins..lb.	...	.51
1000 lb drums.....lb.	...	.50
Tech, 25½ lb tins.....lb.	...	.40
Rue, 1 lb bot..lb.	3.00	3.10
SANDALWOOD, E Ind ,USP, 100 lb case..lb.	8.00	8.25
W Indian (Amayris), 25 lb tins..lb.	2.85	2.95
Australian, Tins.....	5.65	5.65
Sassafras, USP, 50 lb cans...lb.	1.30	1.32
Artificial, 1000 lb drs, 60 lb cans..lb.	.27	.29
Safrol, cans..lb.	.36	.38
Savin, 50 lb tins..lb.	2.50	2.75
Snakeroot, Canada.....lb.	9.00	9.25
SPEARMINT, USP, 50 lb tins ..lb	2.50	2.60
Spruce, 50 lb tins.....lb	.95	1.00
Tansy, American, 25 lb tins..lb.	3.25	3.50
Tar, 50 gal bbls.....lb.	.25	.30
USP, 50 gal bbls.....lb.	.75	1.50
Thyme, red, NF, 25 lb tins..lb.	.75	.77
White, NF, 25 lb tins.....lb.	.83	.85
Tech, 110 lb drums.....lb.	.60	.70
Turpentine, USP, rect cbys..lb.	.27	.30
Vetivert Bourbon, 10 bot....lb.	4.75	5.00
Indian, 1 lb bot.....lb.	25.00	38.00
Java, 1 lb bot.....lb.	13.50	14.50
Wine, heavy, 1 lb bot.....lb.	1.65	1.75
WINTERGREEN Gaultheria, true, 25 lb tin.....lb.	8.00	10.00
Southern, 25 lb tins...lb.	3.75	4.00
Synthetic see Methyl salicylate.....		
Wormwood, dom, 25 lb tins..lb.	7.00	7.25
Wormseed, Balt, 25 lb tins...lb.	4.00	4.50
Ylang Ylang Bourbon, 10 lb tins No. 1..lb.	5.25	5.50
10 lb tins No. 2..lb.	5.20	5.25
Manila, 1 lb bot.....lb.	30.00	36.00

2.

FABRITIUS, OSLO

National Committee for Promoting the Consumption of Norwegian Cod Liver Oil, Bergen, Norway

COD LIVER OIL ABOUNDS IN NATURAL VITAMINS.

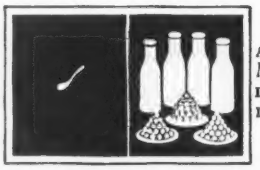
Cod Liver Oil stimulates growth, prevents or cures rickets, gives increased protection against epidemics and wasting diseases such as consumption. Cod Liver Oil maintains strength, assists recovery after illness: builds up the system and restores health, vitality and strength.

Every Doctor and every Nurse knows this. But every day almost, some new and important property of cod liver oil is discovered. Thus in its Special Report No. 134, the British Medical Research Council states:

"On the Archangel front during the war, night-blindness amongst the troops was a common occurrence. The condition yielded to treatment with cod-liver oil, which contains vitamin A."

In your practice perhaps you have discovered some other way in which cod liver oil is useful. If so, please write and tell us about it so that we can place your knowledge at the disposal of the Medical Profession.

A TEASPOONFUL OF NORWEGIAN COD LIVER OIL CONTAINS MORE VITAMINS THAN

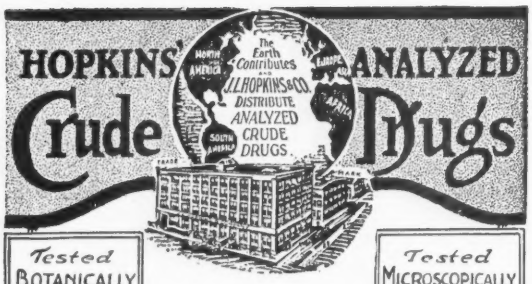


ALL THE BUTTER AND MILK ANY INDIVIDUAL CAN EAT AND DRINK IN A DAY

NORWEGIAN COD LIVER OIL

Drugs and Spices

Aconite Root, USP, bags....lb.	.16	.17
Agar Agar, No. 1, bales....lb.	1.26	1.27
Agar Agar No. 2, bales....lb.	1.18	1.20
Almonds Meal....lb.	.19	.20
Aletris Root, bags....lb.	.30	.31
Alkanet Root, bags....lb	.11	.12
ALOES, Cape, 400 lb cases. lb.	.11	.12
Curacao, 100 lb cases....lb.	.25	.27
Socotrine, Whole, 300 lb cs lb.	.32	.37
Althea Root, bags....lb.	.20	.22
Cut cases....lb.	.25	.32
Angelica Root, bags....lb.	.18	.19
Angostura Bark, bags....lb	.20	.23
Anise Star case....lb	.10½	.11
Spanish, bags....lb	.10	.10½
ARABIC GUM, White, No. 1, 220 lb bags....lb.	.36	.38
Seconds, 220 lb bags....lb.	.35	.37
Sorts, Amber, 220 lb bags..lb.	.12½	.13
Powd, USP, 300 lb bbls....lb.	.18	.21
Areca Nuts, 100 lb bbls....lb.	.08	.10
Powd, 100 lb bbls....lb.	.12	.13
Arnica Flowers, bales....lb.	.13	.15
Root, bags....lb.	.42	.43
Arrowroot, St. Vincent, powd bbls....lb.	.08	.09
Asafoetida, 250 lb cases....lb.	.23	.24
Powd, 50 lb boxes....lb.	.35	.36
Balm Gilead Buds, bags....lb.	.33	.38
Balmony Herbs, bales....lb.	.23	.25
BALSAM COPAIBA Para, 80 lb cases....lb.	...	.26
South American, USP, 80 lb cases....lb.	...	.26
Peru, 120 lb cases....lb.	1.55	1.90
Tolu, 90 lb cases....lb.	1.05	1.10
Barberry Bark, of root, bags lb.	.20	.22
Bayberry Bark, bales....lb.	.10	.11
Wax bbls....lb.	.29	.32
BELLADONNA LEAVES, bale....lb.	.14	.16
Root, bags....lb.	.12½	.13½
Bees Wax, White, cases....lb.	.48	.52
Yellow refined cases....lb.	.34	.40
Benzoin Gum, Siam, boxes..lb.	1.20	1.30
Berberis Aquafolium Root, bags....lb.	.09	.10
Beth Root, bags....lb.	.13	.14
Black Indian Hemp Root, 100 lb bags....lb.	.15	.16
Blood Root, bags....lb.	.14	.14½
Blueflag Root, bags....lb.	.16	.17
Boldo Leaves, bales....lb.	.15	.17
Boneset Herb, bales....lb.	.10	.11
Borage Flowers, bales....lb.	.15	.16
Broomtop Herb Cut, bales..lb.	.08	.09
Bryonia Root, bags....lb.	.10	.11
BUCHU LEAVES Short, 250 lb. bales....lb.	.25	.27
Long bales....lb.	.75	.80
Buckbean Leaves, bales....lb.	.08	.09
Buckthorn Bark, bags....lb.	.05	.05½
Berries, bags....lb.	.30	.35
Burdock Root, bags....lb.	.10	.11
Seed bags....lb.	.40	...
Burgundy Pitch, 110 stand gross for net....lb.	.08	.09
Imported....lb.	.10	.11
Calabar Beans, bags....lb.	.20	.21
Calamus Root, blchd cases..lb.	.37	.38
Unbleached, bags....lb.	.07	.08½
Calendula Petals, imp bales..lb.	.45	.50
Calisaya Bark, bales....lb.	.20	.21
Powdered, bbls....lb.	.25	.26
Canary Seed, South America, bags....lb.	.07½	.08
Dutch, bags....lb.	.06½	.06½
Candelilla Wax, bags....lb.	.27	.28
Cannella Alba Bark, bales...lb.	.26	.27
Cannabis, U.S.P....lb	.22	.29
Cantharides, Chinese, cases..lb.	.40	.45
Powdered, boxes....lb.	.65	.68
Russian, cases....lb.	.70	.75
Powdered, boxes....lb.	.75	.77
Caraway Seed, African, bags....lb.	.05	.06
Dutch, 11 lb bags....lb.	.10	.10½
Cardamon bleached, cases...lb.	1.40	1.50
Decorticated, cases....lb.	.96	1.00
Cascara Amarga, 150 lb bbls.lb.	Nom	...
So called bales....lb.	.50	.75
CASCARA SAGRADA, 1928 bark....lb.	.17	.18
1929 bark....lb.	.16½	.18
1930 bark....lb.	.13	.14
Cascarilla Bark, quills, bales.lb.	.90	1.00
Siftings, bbls....lb.	.65	...
Cassia Batavia No. 1 bbls....lb.	.08½	.09
Shortstick, bales....lb.	.08	.08½
Batavia No. 3, bales....lb.	.07	.07½
China Select Rolls, cases..lb.	.03¾	.04
Broken, bales....lb.	.05½	.05¾
Saigon, thin....lb.	.22	.23
Buds, cases....lb.	.12	.13
Fistula, baskets....lb.	.08	.09
Catnip, Herb, bales....lb.	.20	.21
Celery Seed, bales....lb.	.18	.20
Ceresin Wax, White, bags...lb.	.15	.20
Yellow 200 lb. bags....lb.	.11	.14
Imp. 100 lb. bags....lb.	.25	.38
CHAMOMILE FLOWERS Roman, bales....lb.	.50	.55
Hungarian, cases....lb.	.25	.26
Charcoal Willow, powd, bbls.lb.	06	.06½
Wood, powd, bbls....lb.	.04	.05
Chestnut Bark....lb.	.07	.08
Leaves bales....lb.	.05	.05½
Chicle Gum, lb bbls....lb.	.58	.75
Chiretta, bales....lb.	.14	.17
Cinnamon, Ceylon, No. 1, bales....lb.	.17	.18
No. 2 bales....lb.	.15¼	.16
No. 3 bales....lb.	.15	.16
Clover Tops, Red, bags....lb.	.09	.10
Cloves Zanzibar, 135 lb bbl...lb.	.30	.31
Cochineal, Black....lb.	.69	...
Silver....lb.	.85	...
Cohosh Root, Black, bags....lb.	.07	.08
Blue, bags....lb.	.08	.09
Colchicum Root, bags....lb.	.08	.09
Seed, bags....lb.	.75	.80
COLOMBO ROOT, bags...lb.	.07	.08
Colocynth Pulp, bales....lb.	.20	.21
Coltsfoot Leaves, bags....lb.	.08	.09
Comfrey Root, bags....lb.	.15	.16
Condurango Bark, bags....lb.	.10	.11
Coriander Seed, Morocco, bags....lb.	.02½	.03
Bleached, bags....lb.	.05½	.06
Corn Silk, bales....lb.	.06½	.07½
Cotton Root Bark, bales....lb.	.10	.11
Cowhage, 1 oz tins....lb.	1.00	...
Cramp Bark so called bales..lb.	.06½	.07
True, bags....lb.	.32	.37
Cranesbill Root, bags....lb.	.10	...
CUBEB BERRIES, XX bags....lb.	.39	.41
Powdered, boxes....lb	.42	.43
Culvers Root, bags....lb.	.16	.17
Cumin Seed, Malta, bags....lb.	.13½	.13¾
Morocco, bags....lb.	.13½	.14
Cuttlefish, Bone Trieste, Straps....lb.	.22	.24
French, boxes....lb.	.22	.23
Powdered, bbls....lb.	.09	.10
Broken, bales....lb.	.07	...
Damiana Leaves, bales....lb.	.15	.16
Dandelion Root, Imp. bags..lb.	.18	.20
Deer Tongue Leaves, bales..lb.	.11	.13
Digitalis Leaves, bales....lb.	.12	.13
Dogwood Bark, Jamaica bags....lb.	.08½	.09½
American bales....lb.	.06½	...
Doggrass Root, USP, cut bags....lb.	.13	.14
Dragons Blood Mass, cases..lb.	.65	.70
Reeds, boxes....lb.	...	1.20
Echinacea Root, bags....lb.	.22	.24
Elcampane Root, bags....lb.	.07	.08
Elder Flowers, bags....lb.	.30	.34
Elemi Gum, 85 lb cases....lb.	.26	.28
Elm Bark, bundles....lb.	.22	.23
Grinding bags....lb.	.13½	.14
Powdered, bbls....lb.	.18	.19
Ephedra Vulgaris, bales....lb.	.07	.08
ERGOT, 150-200 lb bags....lb.	.47	.65
Eucalyptus Leaves, bales....lb.	.05½	.06½
Euphorbia Pilulifera, Herb, bags....lb	.06	.09
Euphorbium Gum, cases....lb.	.14	.20
Fennel Seed, French, bags...lb.	.09½	.10
German bags....lb.	.12	.14
Foenugreek Seed, 200 lb bags....lb.	.04½	.04¾
Fish Berries, 100-125 lb bag..lb.	.06	.07½
Flax Seed, Whole ..182 lb bbls..	14.50	15.25
Ground, 180 lb bbls....lb.	.08	.08½
Fringe Tree Bark or Root bags....lb.	.18	.20
Fumigating Pastiles, boxes..lb.	.30	.35
Galangal Root, bags....lb.	.08½	.09½
Galbanum Gum, cans....lb.	.95	1.05
Gamboge Gum, 100 lb cases..lb.	.95	1.00
Powdered, cases....lb.	...	1.10
Gelsemium Root. bags....lb.	.07½	.08½
GENTIAN ROOT, bags....lb.	.08	.09
Ground bbls, boxes....lb.	.10	.11
Powdered, bbls, boxes....lb.	.10	.11
Ginger, African, bags....lb.	.10	.10½
Jamaica Grinding bags....lb.	.11	.11½
Cochin ABC & Lemon, bags....lb.	.12	.12½
Ginseng Root, cultivated cs..lb.	8.00	10.00
Wild Southern, cases....lb.	...	16.00
Golden Seal Root, bags....lb.	1.30	1.35
Powdered, boxes....lb.	2.00	2.25
Herb, barrels....lb.	1.25	1.30
Grains of Paradise, bags....lb.	.18	.23
Grindelia Robusta, Herb, bale....lb.	.08	.09
Guaiac Gum, 150 lb cases....lb.	.35	.36
Strained 75 lb cases...lb.	.70	.75
Guarana, tin cases....lb.	1.50	1.75
Hellebore Root, Black, bbls. lb.	.05½	.06
White, 250 lb bbls....lb.	.07½	.08½
Powdered....lb.	.11	.12
Helonias Root, bags....lb.	.50	.52
Hemp Seed, bags....lb.	.03½	.03¾
Henbane Leaves, USP, bales.lb.	.11½	.12½
HENNA LEAVES, bales....lb.	.10	.11
Powdered....lb.	.14	.15
Hops, bales....lb.	...	.23
Horehound, Herb, bales....lb.	.07	.08
Hydrangea Root, bales....lb.	...	.07½
IPECAC ROOT, Carteagna, bags....lb.	2.05	2.30
Powdered, 220 lb bbls...lb.	2.40	2.50
Rio Whole, bags....lb.	2.90	3.00
Powdered, 110 lb bbls...lb.	3.40	3.45
Isinglass, American, 130 lb cases....lb.	.95	1.00
Russian (Beluga), boxes...lb.	4.50	...
Jaborandi Leaves, bales....lb.	.11	.11½
Jalap Root, Whole, 150 lb bag....lb.	.21	.23
USP, Powd, 250 lb bbls....lb.	.26	.29
Japan Wax 24 lb cases....lb.	.18½	.19
JUNIPER BERRIES, 125 lb bags....lb.	.05½	.06
Kamala, boxes....lb.	.90	.95
Karaya Gum, Powdered, bbls....lb.	.12	.20
Kava Kava Root, bags....lb.	.14	.15
Kino Gum, Black, cases....lb.	.50	.55
Kola Nuts, 150 lb bags....lb.	.08	.09
Lady Slipper Root, bags....lb.	.60	.65
Larkspur Seed, bags....lb.	.40	.45
Laurel Berries, bags....lb.	.08	.09
Leaves, Greek, bags....lb.	.05½	.06½
Italian, bales....lb.	.08	.09
Lavender Flowers, Ordinary .lb.	.28	.30
Selected....lb.	.32	.33
Lemon Peel, bags....lb.	.09	.10
LICORICE ROOT, Whole bbls....lb.	.12½	.18½
Spanish Natural bales....lb.	.05½	.07
Powdered, bbls....lb.	.09	.10
Selected 2 & 5 lb bdls....lb.	.13	.15
Cutting, 125 lb bags....ln.	.06	.06½
Turkish, 150 lb bales....lb.	.05	...
Linden Flowers with leaves, bales....lb.	.20	.21
Without leaves, bales...lb.	.23	.24
Liverwort Leaves, bales....lb.	.15	.16
Lobelia, Herb, bales....lb.	.10	.11
Seed, bags....lb.	.45	.50
Lovage Root, Imp., bags....lb.	.25	.27
Lupulin N. F., tins....lb.	1.40	1.45
Lycopodium, 88 lb. cases....lb.	.46	.48
MACE SIAUW, No. 1, cases....lb.	.50	.51
Banda No. 1, cases....lb.	.58	.60
Batavia No. 2, cases....lb.	.35	.36
Malva Flowers, Blue, bales..lb.	.40	.42
Black, bales....lb.	.40	.55
Leaves, bales....lb.	.14	.15
Manaca Root, bales....lb.	.35	.36
Manna, Large Flake, cases...lb.	.70	.72
Small Flake, cakes....lb.	.40	.48
Sorts, cases....lb.	.45	.50
Mandrake Root, bags....lb.	.10	.11
Marjoram, Herb....lb.	.18	.18½
French, No. 1 bales....lb.	.16	.17
German, bales....lb.	.65	.70
Mastic Gum, 120 lb cans....lb.	.18	.21
Matico Leaves, bales....lb.	.15	.16
Mezereon Bark, bags....lb.	.02½	.03
Millet Seed, Yellow, bags...lb.	.06½	.07
Montan Wax, Crude, bags..lb.	.25	.28
Bleached, bags....lb.	.10	.12
Moss, Iceland, bales....lb.	.12	.15
Irish, Bleached, bales....lb.	.85	.87
Mullein Flowers, tins....lb.	.07½	.08
Leaves, bales....lb.	.07½	.08½
Musk Root, Russian, bags...lb.	.20	.22
Myrrh Gum, 200 lb, cases...lb.	.22	...
Nutgalls, Chinese, bags....lb.	.21	...
Aleppy, bags....lb.	.23	...
Powdered, bags....lb.	.16½	.17
Nutmegs, 110's cases....lb.	.19	.20
75's & 80's cases....lb.	.19	.20
Grinding, bags....lb	.05	.06
NUX-VOMICA Buttons, bag....lb.	.08	.09
Powdered, 200 lb bbls..lb.	.05	.05½
Oak Bark, bags....lb.	.10	.11½
Olibanum Gum, 280 lb cases Siftings....lb.	.25	.26
Tears, No. 1 Extra....lb.	.17	.19
No. 2....lb.	.14	.16
No. 3....lb.	12.00	13.00
Opium Gum, USP, cases....lb.	13.00	14.00
Granular, cans....lb.	13.00	14.00
Powdered, USP, cans....lb.	.30	.35
Orange Flowers, cases....lb.	.09	.10
Peel, Bitter, bags....lb.	.09	.10
Sweet bags,....lb.	.20	.21
ORRIS ROOT, Flor. bid. bags....lb.	.25	.27
Powdered, 200 lb bbls..lb.	.14	.15
Verona, bags....lb.	.19	.20
Powdered, 200 lb bbls..lb.	.95	1.00
Fingers, boxes....lb.	...	...
Ozokerite Wax, Brown, Hard lb.	.24	.25
Bags....lb.	.30	.31
Green, Hard, bags....lb.	.37	...
Yellow, Refined, bags....lb.	2.50	2.55
Papain, Crude, 150 lb cases..lb.	2.70	2.75
Pure, Powdered, 10 lb bot..lb.	.21	.21½
Paprika, bags....lb.	.14	.15
Pareira Brava Root, bags....lb.	.05½	.06½
Passion Flower, bales....lb	.20	.21
Patchouli Leaves, bales....lb.	.07	...
Pennyroyal, Herb, 100 lb bags....lb.	.20	.21
Leaves, 100 lb bags....lb.		



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Pink Root, True, bags	lb.	.48	.50
Pleurisy Root, bags	lb.	.20	.21
Poke Berries, bags	lb.	...	.18
Root, 200 lb bales	lb.	.07	.07½
Pomegrant Bark of Root, bags	lb.	.30	.35
Bark of Fruit, bags	lb.	.25	.30
Bark of Tree, bags	lb.	.18	.22
POPPY FLOWERS, Red, bags	lb.	.45	.50
Prickly Ash Bark	lb.	.14	.17
Southern bags	lb.	.13	.13½
Northern, bags	lb.	.15	.16
Berries, bags	lb.	.14	.15
Prince's Pine, bales	lb.	.18	.23
Psyllium Seed, Black, bags	lb	.38	.41
Pulsatilla, Herb, bags	lb.	.11	.12
Pumpkin Seed, bags	lb.	.14	.15
Pyrethrum Flowers	lb.	.26	.27
Pwd., pure, 200 lb.bbls.	lb.	.25	.26
Quassia Chips, bags	lb.	.06½	...
Quebracho, bulk, 125 lb. bbl.	lb.	.30	.31
Quince Seed, bags	lb.	1.50	1.60
Persian, bags	lb	1.95	2.00
Rape Seed, South American, bags	lb.	.05½	.06
Dutch, bags	lb.	.06	.06½
Raspberries, Dried, bbls.	lb.	.60	.65
Red Saunders, bags	lb.	.08	...
Rhatany Root, bags	lb.	.10	.11
Rhubarb Root, HD, cases	lb.	.19	.20
Powdered, bbls.	lb	.24	.26
Rosemary Leaves, bales	lb.	.05	.05½
Flowers, cases, bales	lb.	.25	.30
Rose Petals, pale	lb.	.22	.23½
Red	lb.	.80	.85
Rue, Herb, bales	lb.	.18	.20
Sabadilla Seed, bags	lb.	.29	.30
Powdered, bbls.	lb.	.29	.30
SAFFRON FLOWERS, American, bales	lb.	.25	.26
Valencia, 1 lb cans	lb.	11.25	11.75
Sage Dalmatian, bales	lb.	.05½	.06
Sandarac Gum, 300 lb bbls.	lb.	.45	.50
Sarsaparilla Root, Honduras, bales	lb.	.45	.46
Mexican, bales	lb.	.22	.24
Sassafras Bark, Ordinary, bales	lb.	.12	.14
Select, bales	lb.	.19	.21
Savory Leaves, bale	lb.	.07½	.08
Saw Palmetto Berries, bags	lb.	.07½	.08½
Scammony Resin, boxes	lb.	1.30	1.35
Root, bags	lb.	.08½	...
Senega Root, bags	lb.	.67	.68
SENNA ALEX., 150 lb cases	lb.	.25	.30
Half leaf 150 lb cases	lb.	.12½	.14½
Sifting, 400 lb bales	lb.	.11	.11½
Tinnevelly, Bold, 350 lb bales	lb.	.16	.18
Medium Leaf	lb.	.11	.12
Small Leaf	lb.	.07	.09
Pods, 350 lb	lb.	.07½	.08
Powdered, 200 lb	lb.	...	.10
Serpentaria Root, bags	lb.	.50	.53
Simaruba Bark, bales	lb.	.25	.27
Skullcap Leaves, Eastern, bales	lb.	.50	.55
Western, bales	lb.	.30	.31
Skunk Cabbage, Striped, bales	lb.	.12	.14
Snake Root, Canada Natural, bags	lb.	.26	.27
Canada, Stripped, bags	lb.	...	.50
Soap Bark	lb.	.14	.15
Cut, 125-175 lb bags	lb.	.09	.09½
Crushed, 200 lb bbls.	lb.	.16	...
Powdered, bbls.	lb.	.12	.13
Spearmint Leaves, American, bales	lb.	.30	.31
Spermaceti, blocks, cakes, cases	lb.	.32	.35
Spikenard Root, bags	lb.	.13	.13½
Squaw Vine, bales	lb.	.14	.15
Squills, White	lb.	.06	.07
Powdered, bulk	lb.	.23	.25
Stavesacre Seed, bags	lb.	.14	.15
Stillingia Root, bags	lb.	.08	.09
Stone Root, bags	lb.	.08	.09
St. Ignatius Beans, bags	lb.	...	Nom.
St. John's Bread, bags	lb.	...	.09
STRAMONIUM LEAVES, bales	lb.	.12	.14
Seed, bags	lb.	.07½	...
Strophanthus Seed, Kombe, bags	lb.	2.00	2.25
Styrax Liquid, Artificial	lb.	.26	.35
Genuine, USP	lb.	.38	.43
Sunflower Seed, bags Calif.	lb.	.04½	.05
South American, bags	lb.	.07	.07½
Tamarinds, bbls.	lb.	.07	.08
Kegs	keg	3.85	...
Tansy, Herb, bales	lb.	.14	.15
Thus Gum, 280 lb bbls.	lb.	.08	.17
THYME, Spanish, bales	lb.	.08	.08½
French, bales	lb.	.07½	.08
Tonga Root, bundles	lb.	.25	.26
Bark, bundles	lb.	.25	.26
Tonka Beans, Angostura Cases		1.75	1.85
Para cases	lb.	.90	...
Surinam cases	lb.	1.00	1.10
Tragacanth Gum, No 1, 100 lb. cases	lb.	1.45	1.50
No. 2	lb.	1.30	1.40
No. 3	lb.	1.10	1.20
Powdered, 50 lb boxes	lb.	.85	.95
Turkish cases	lb.	.50	.90
Turmeric Root Madras, bags.	lb.	.07¼	.08½
Aleppy bags	lb.	.07	.07½
Powdered	lb.	.13	.15
China bags	lb.	.11	.12
Turpentine Venice True, 80 lb cases	lb.	.32	.40
Artificial, 80 lb cases	lb.	.17	.18
Uva Ursi Leaves, bales	lb.	.05½	.06
Valerian Root, Belgium bags	lb	.13	.15
VANILLA BEANS, Mexican, whole, cases	lb.	4.25	5.50
Cuts, cases	lb.	3.25	3.40
Bourbon, cases	lb.	1.10	1.50
Vetivert Root, 100 lb bags.	lb.	.25	...
Violet Flowers, bags	lb	1.00	1.05
Wahoo Bark of Root, bags.	lb.	.45	.48
Bark of Tree, bags	lb.	.23	.24
White Pine Bark, Roseed, bags	lb.	.06	.08
White Poplar Bark, bags	lb.	.06	.07½
Wild Cherry Bark, Thin, Green	lb.	.11	.12
Rossed bales	lb.	.11	.12
Thick Rossed, bales	lb.	.08	...
Wild Indigo Root, bags	lb.	.13	.14
Willow Bark, bags	lb.	.05	.05½
White, bags	lb.	.15	...
Witch Hazel Bark, bags	lb.	.05½	.06½
Leaves, bales	lb.	.07	.08
Wormseed, American, bags.	lb.	...	.08
Wormwood, Herb, Imp., bales	lb.	.08	.08½
Yellow Dock Root, bags,	lb.	.08	09
Yerba Mate, bags	lb.	.25	.27
Santa, bags	lb.	09	.10½

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White Metal Mfg. Co., Hoboken, N. J. ..... Insert between 8, 9
Wilckes-Martin-Wilckes Co., New York 103
Will & Baumer Candle Co., Inc., Syracuse, N. Y. 87
Wilson Laboratories, Chicago, Ill. 100
Wirz, Inc., A. H. Chester, Pa. ..... Insert facing 49